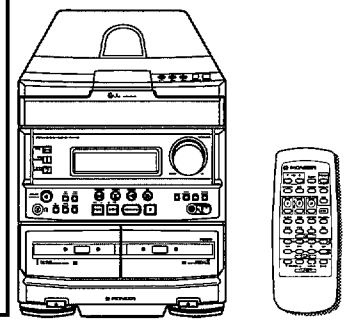
Service Manual

PIONEER®
The Art of Entertainment



ORDER NO.
RRV1690

STEREO CD CASSETTE DECK RECEIVER

XR-P470C

XR-P370CR

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Type	Model	Power Requirement	The voltage can be converted by the following method.
	XR-P470C		
DD	O	AC110 – 127V/220 – 230V/240V	With the voltage selector
DL	O	AC110 – 120V/220 – 230V/240V	With the voltage selector
D/DF	O	AC110 – 127V/220 – 230V/240V	With the voltage selector

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1. SAFETY INFORMATION

VARO!
AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.

ADVERSEL:
USYNLIG LASERSTRÅLING VED ÅBNING NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION UNDGÅ UDSAETTELSE FOR STRÅLING.

VARNING!
OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD OCH SPÄRREN ÄR URKOPPLAD. BETRAKTA EJ STRÅLEN.

LASER
Kuva 1
Lasersateilyn varoitusmerkki

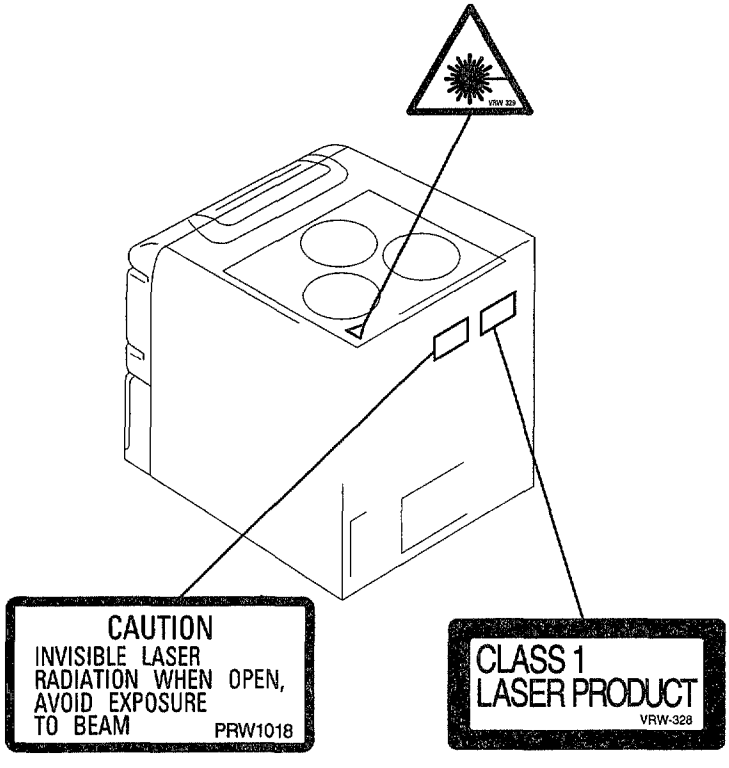
WARNING!
DEVICE INCLUDES LASER DIODE WHICH EMITS INVISIBLE INFRARED RADIATION WHICH IS DANGEROUS TO EYES. THERE IS A WARNING SIGN ACCORDING TO PICTURE 1 INSIDE THE DEVICE CLOSE TO THE LASER DIODE.

IMPORTANT
THIS PIONEER APPARATUS CONTAINS LASER OF CLASS 1.
SERVICING OPERATION OF THE APPARATUS SHOULD BE DONE BY A SPECIALLY INSTRUCTED PERSON.

LASER DIODE CHARACTERISTICS
MAXIMUM OUTPUT POWER: 5 mw
WAVELENGTH: 780-785 nm

LASER
Picture 1
Warning sign for laser radiation

LABEL CHECK (For DL type)



Additional Laser Caution

1. Laser Interlock Mechanism
   The position of the switch (S8501) for detecting loading state is detected by the system microprocessor, and the design prevents laser diode oscillation when the switch (S8501) is pressed physically.
   Thus, the interlock will no longer function if the switch (S8501) is released physically and deliberatery.
   The interlock also does not function in the test mode ✻. Laser diode oscillation will continue, if pin 62 of LA9240ML (IC8101) on the CD ASSY mounted on the $M Loading Mechanism assembly is connected to GND, or else the terminals of Q8101 are shorted to each other (fault condition).

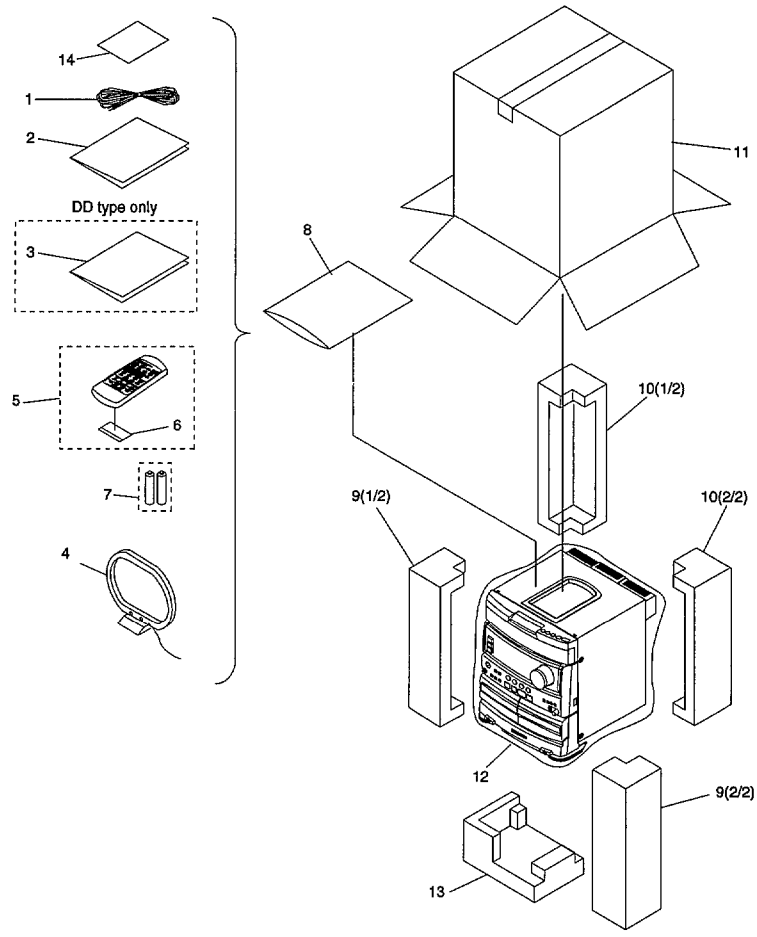
2. When the cover is opened, close viewing of the objective lens with the naked eye will cause exposure to a Class 1 laser beam.

✻ : Refer to page 54.

2. EXPLODED VIEWS AND PARTS LIST

NOTES: • *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
• *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
• *Screws adjacent to ▼ mark on product are used for disassembly.*

2.1 PACKING



(1) Parts List

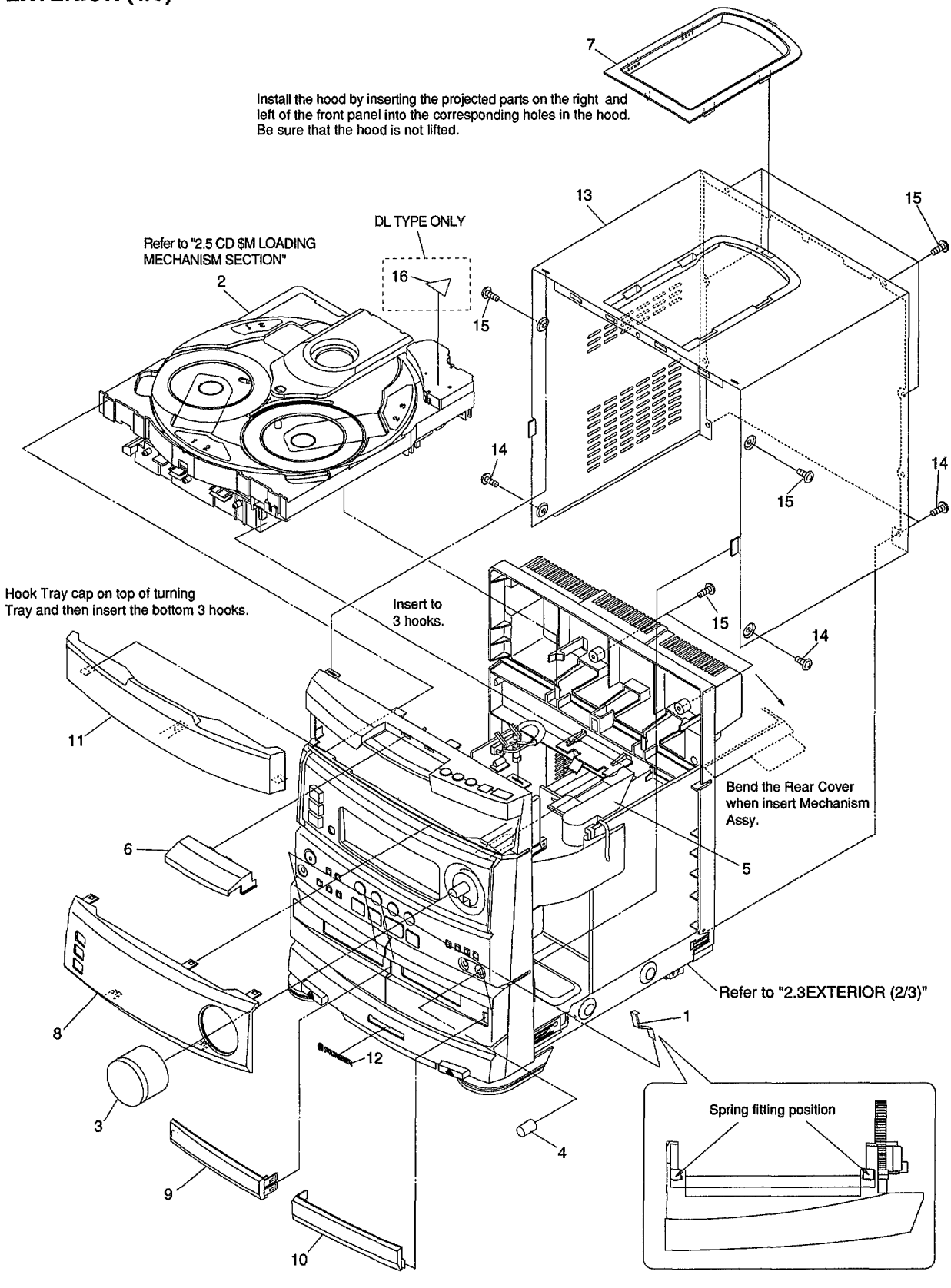
Mark	No.	Description	Parts No.
	1	FM T-type Antenna	ADH7007
	2	Operating Instructions (English/Spanish/Chinese)	ARE7089
	3	Operating Instructions (Portuguese)	See Contrast table (2)
	4	AM Loop Antenna	ATB7004
	5	Remote Control Unit (CU – XR032)	AZN7656
	6	Battery Cover	AZA7204
NSP	7	Battery (R6P, AA)	VEM – 013
	8	Polyethylene Bag (0.03X230X340)	Z21 – 038
	9	Front Pad	AHA7144
	10	Rear Pad	AHA7145
	11	Packing Case	AHD7411
	12	Packing Sheet	AHG7003
	13	Sub Pad	AHA7162
NSP	14	Caution Label 220 – 230V	See Contrast table (2)

(2) Contrast Table

XR-P470C/DD, DL and D/DF have the same construction except for the following:

Mark	No.	Symbol & Description	Part No.			Remarks
			DD TYPE	DL TYPE	D/DF TYPE	
	3	Operating instructions (Portuguese)	ARC7137	Not used	Not used	
NSP	14	Caution Label 220-230V	ARR7007	ARR7005	ARR7007	

2.2 EXTERIOR (1/3)



NOTE : Screws adjacent to ▼ mark on product are used for disassembly. However, there is no indication on the hood installation screws of the Rear Cover.

(1) Parts List

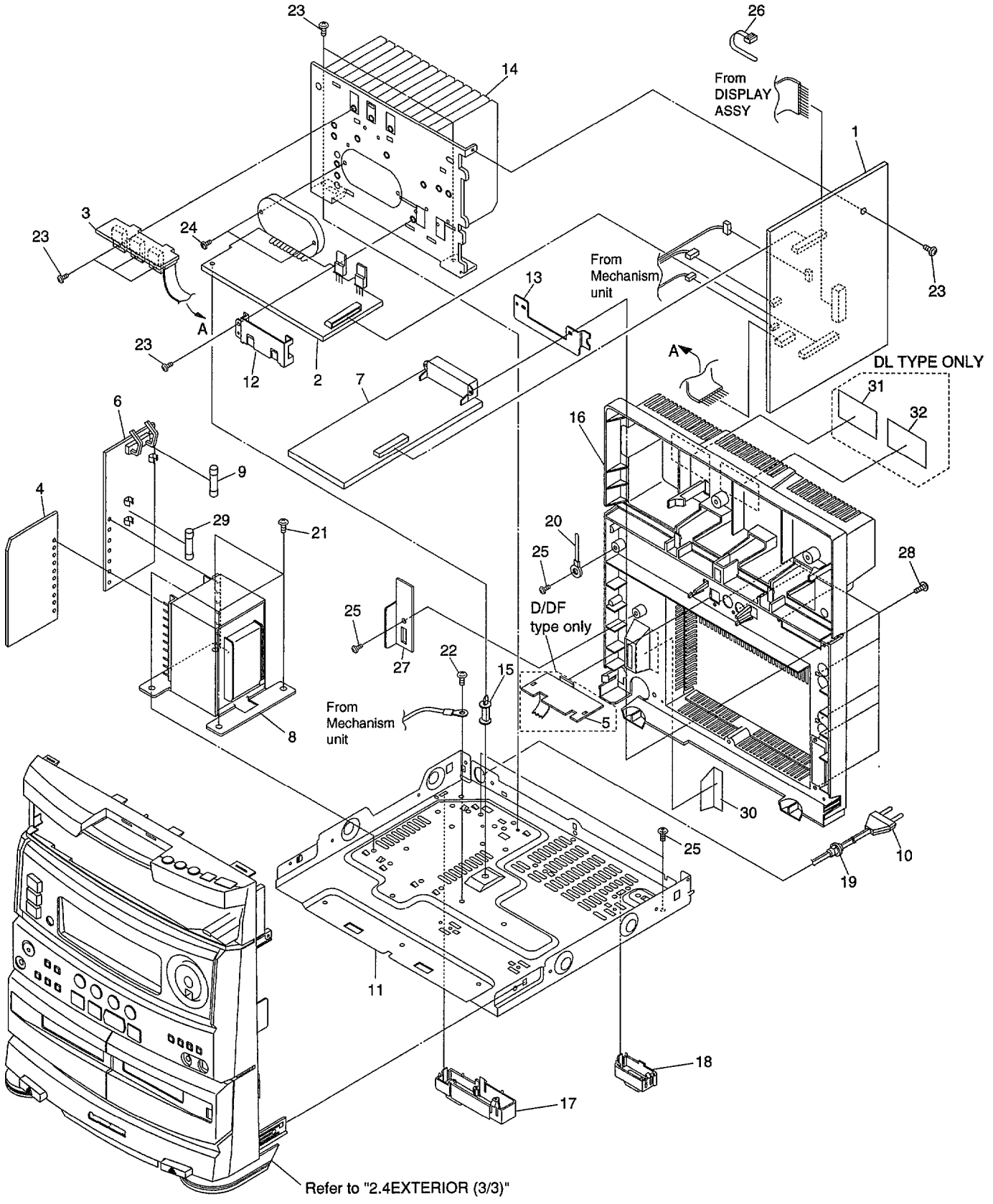
Mark	No.	Description	Parts No.
	1	Spring	RBK1004
NSP	2	CD $M Loading Mechanism	See Contrast table (2)
	3	VOL Knob	AAB7103
	4	Mic Level Volume	AAB7113
	5	20P F.F.C/30V	See Contrast table (2)
	6	CD Window	AAK7278
	7	TOP Window	AAK7279
	8	FL Lens	AAK7284
	9	Deck Lens L	AAK7285
	10	Deck Lens R	AAK7286
	11	Tray Cap	AAK7327
	12	Name Plate	PAM1608
	13	Bonnet Case	AZN7655
	14	Screw	VBZ30P080FZK
	15	Screw	BPZ30P100FZK
	16	Caution Label (G)	See Contrast table (2)

(2) Contrast Table

XR-P470C/DD, DL and D/DF have the same construction except for the following:

Mark	No.	Symbol & Description	Part No.			Remarks
			DD TYPE	DL TYPE	D/DF TYPE	
NSP	2	CD $M Loading Mechanism	AXA7037	AXA7037	AXA7040	
	5	20P F.F.C/30V	ADD7041	ADD7041	ADD7055	
	16	Caution Label (G)	Not used	VRW – 329	Not used	

2.3 EXTERIOR (2/3)



(1) Parts List

Mark	No.	Description	Parts No.
	1	AF ASSY	See Contrast table (2)
	2	POWER PACK ASSY	AWZ8473
	3	REGULATOR ASSY	AWZ8477
	4	SECONDARY ASSY	See Contrast table (2)
	5	MD ASSY	See Contrast table (2)
	6	PRIMARY ASSY	AWZ8491
	7	FM/AM TUNER MODULE	See Contrast table (2)
⚠	8	T1 Power Transformer	ATS7157
⚠	9	FU1 Fuse (T1.25A)	AEK1055
⚠	10	AC Power Cord	See Contrast table (2)
NSP	11	Chassis	ANA7051
	12	Transistor Holder	ANG7102
	13	GND Plate	ANG7106
	14	Heat Sink	ANH7047
NSP	15	PCB Spacer	AEC1188
	16	Rear Cover	See Contrast table (2)
	17	Leg Mold L	AMR7148
	18	Leg Mold R	AMR7156
	19	Strain relief	CM – 22B
NSP	20	Cord Stopper	DNF1128
	21	Screw	ASZ40P060FMC
	22	Screw	BBZ30P060FCC
	23	Screw	VBZ30P080FZK
	24	Screw	BBZ30P180FMC
	25	Screw	BPZ30P080FMC
	26	Binder	ZCA – SKB90BK
	27	PVC Barrier	AEC7074
	28	Screw	BPZ30P100FZK
⚠	29	FU2 Fuse (T1.25A)	AEK1055
	30	Voltage Label	See Contrast table (2)
NSP	31	Caution Label (F)	See Contrast table (2)
	32	Caution Label	See Contrast table (2)

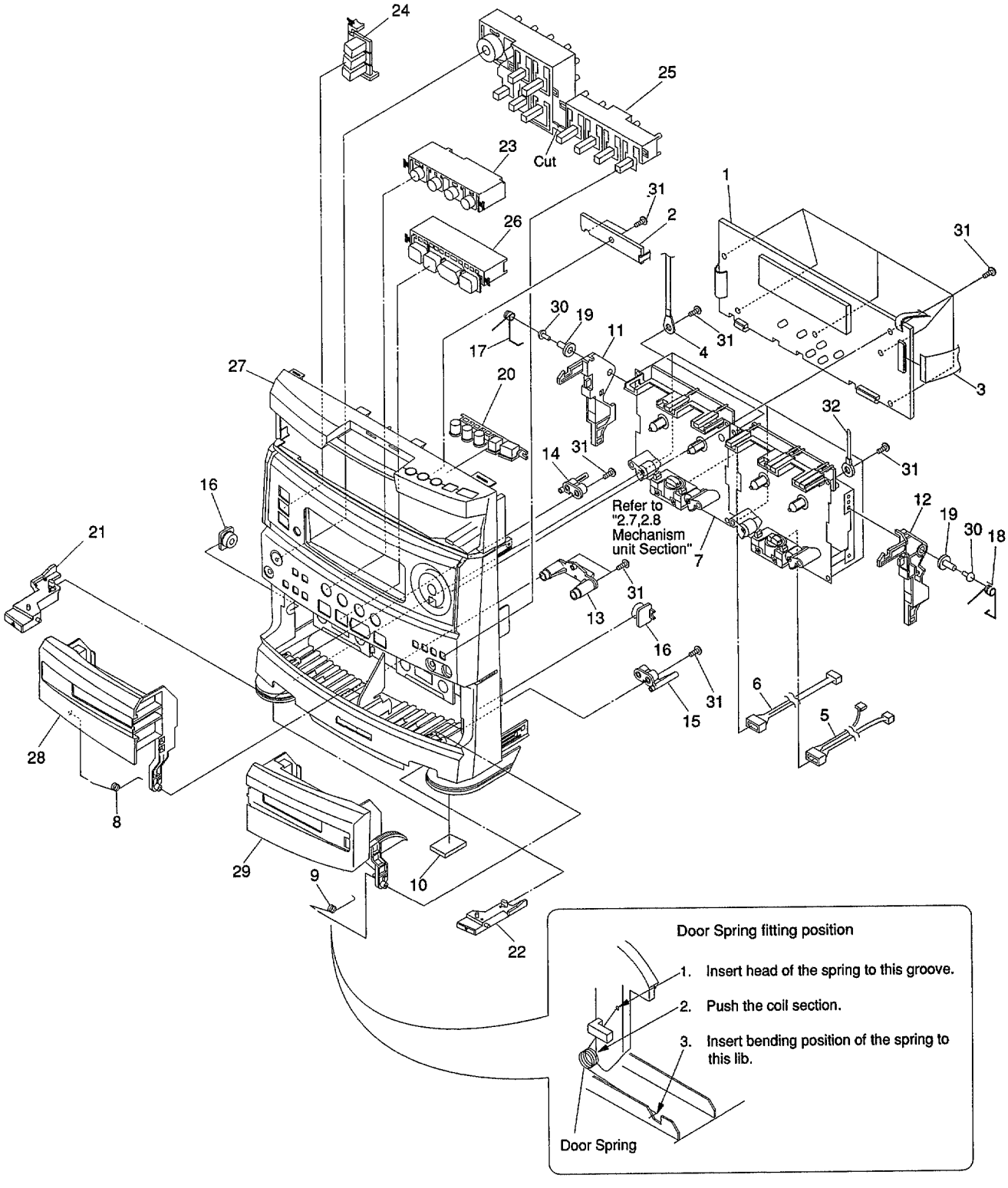
Note: The GND Plate (No.13) will tend to come off once it is removed, as the plate is fit with light pressure. If you have to remove the plate, secure it onto the Rear Cover with adhesive tape for reinstallation.

(2) Contrast Table

XR-P470C/DD, DL and D/DF have the same construction except for the following:

Mark	No.	Symbol & Description	Part No.			Remarks
			DD TYPE	DL TYPE	D/DF TYPE	
	1	AF ASSY	AWZ8470	AWZ8470	AWZ8469	
	4	SECONDARY ASSY	AWZ8489	AWZ8489	AWZ8485	
	5	MD ASSY	Not used	Not used	AWZ8488	
	7	FM/AM TUNER MODULE	AXQ7051	AXQ7051	AXQ7054	
⚠	10	AC Power Cord	ADG1157	ADG1153	ADG1157	
	16	Rear Cover	AMC7008	AMC7008	AMC7006	
	30	Voltage Label	AAX7391	AAX7392	AAX7391	
NSP	31	Caution Label (F)	Not used	VRW – 328	Not used	
	32	Caution Label	Not used	PRW1018	Not used	

2.4 EXTERIOR (3/3)



(1) Parts List

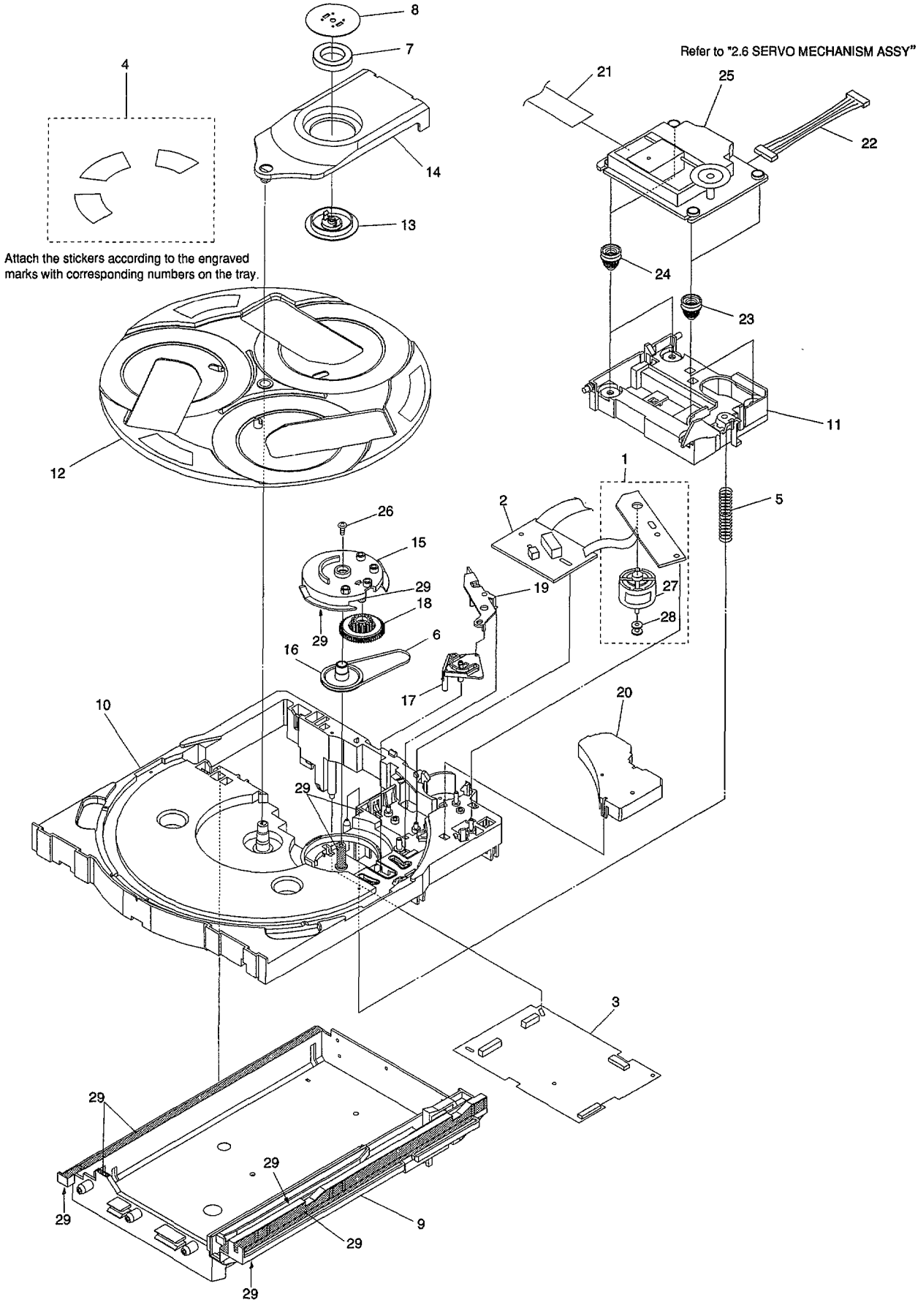
Mark	No.	Description	Parts No.
	1	DISPLAY ASSY	See Contrast table (2)
	2	CD SWITCH ASSY	AWZ8484
	3	J1 Flexible Cable 29P20	ADD7054
NSP	4	Cord With Plag	DE015VF0
	5	Connector Assy 5P	RKP1582
	6	Connector Assy 3P	RKP1583
	7	Mechanism Unit	RYM1248
	8	Door Spring L	ABH7132
	9	Door Spring R	ABH7133
	10	Rubber Sheet	AEB1111
	11	Eject Arm (L)	AMR7020
	12	Eject Arm (R)	AMR7021
	13	Mechanism Support C	AMR7162
	14	Mechanism Support L	AMR7163
	15	Mechanism Support R	AMR7164
	16	Damper Assy	AXA7038
	17	Spring (L)	RBH1411
	18	Spring (R)	RBH1412
	19	Collar	RNK2135
	20	Button B	AAD7315
	21	Eject Button L	AAD7316
	22	Eject Button R	AAD7317
	23	Function Button	AAD7319
	24	SFC Button	AAD7320
	25	Power Button	AAD7347
	26	Start Button Assy	AXG7003
	27	Front Panel	See Contrast table (2)
	28	Cassette Door L	AZN7652
	29	Cassette Door R	AZN7653
	30	Screw	BSZ20P120FMC
	31	Screw	BPZ30P080FMC
NSP	32	Cord Stopper	DNF1128

(2) Contrast Table

XR-P470C/DD, DL and D/DF have the same construction except for the following:

Mark	No.	Symbol & Description	Part No.			Remarks
			DD TYPE	DL TYPE	D/DF TYPE	
	1	DISPLAY ASSY	AWZ8480	AWZ8480	AWZ8478	
	27	Front Panel	AZN7658	AZN7658	AZN7651	

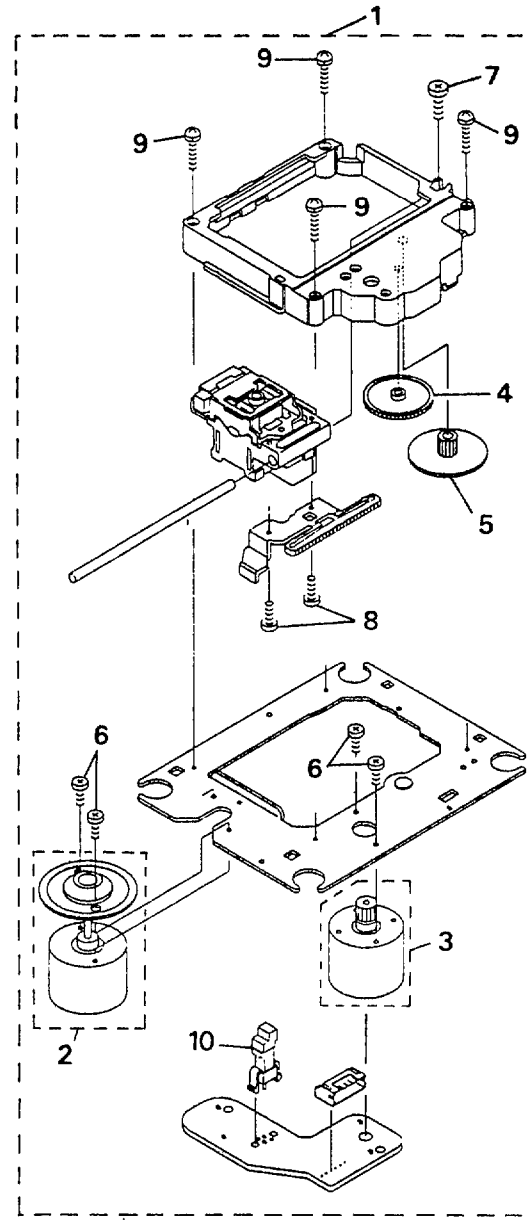
2.5 CD $M LOARDING MECHANISM SECTION


Refer to "2.6 SERVO MECHANISM ASSY"
Attach the stickers according to the engraved marks with corresponding numbers on the tray.

Parts List

Mark	No.	Description	Parts No.
	1	MOTOR ASSY	AWZ8428
NSP	2	SW ASSY	AWZ8429
	3	CD ASSY (DD AND DL TYPES)	AWZ8427
	3	CD ASSY (D/DF TYPE)	AWZ8742
	4	Disc Label	AAX7371
	5	Servo Spring	ABH7126
	6	Belt	AEB7072
	7	Clamp Magnet	AMF7001
	8	Yoke	ANB7067
	9	Mechanism Base	ANW7087
	10	Loading Tray	ANW7088
	11	Servo Base	ANW7089
	12	Rotary Tray	ANW7090
	13	Clamper	ANW7091
	14	Clamper Holder	ANW7092
	15	Main Cam	ANW7093
	16	Gear Pully	ANW7094
	17	Lock Lever	ANW7095
	18	Planet Gear	ANW7096
	19	Actuater	ANW7097
	20	Motor Cover	ANW7098
	21	15P F.F.C/30V	ADD7038
	22	Connector Assy (6P)	ADE7010
	23	Float Rubber A	AEB7063
	24	Float Rubber B	AEB7066
	25	Servo Mechanism Assy	AXA7039
	26	Screw	IPZ30P080FMC
	27	Carriage Motor	VXM1033
	28	Motor Pully	PNW1634
	29	Ha Narl	GEM1016

2.6 SERVO MECHANISM ASSY

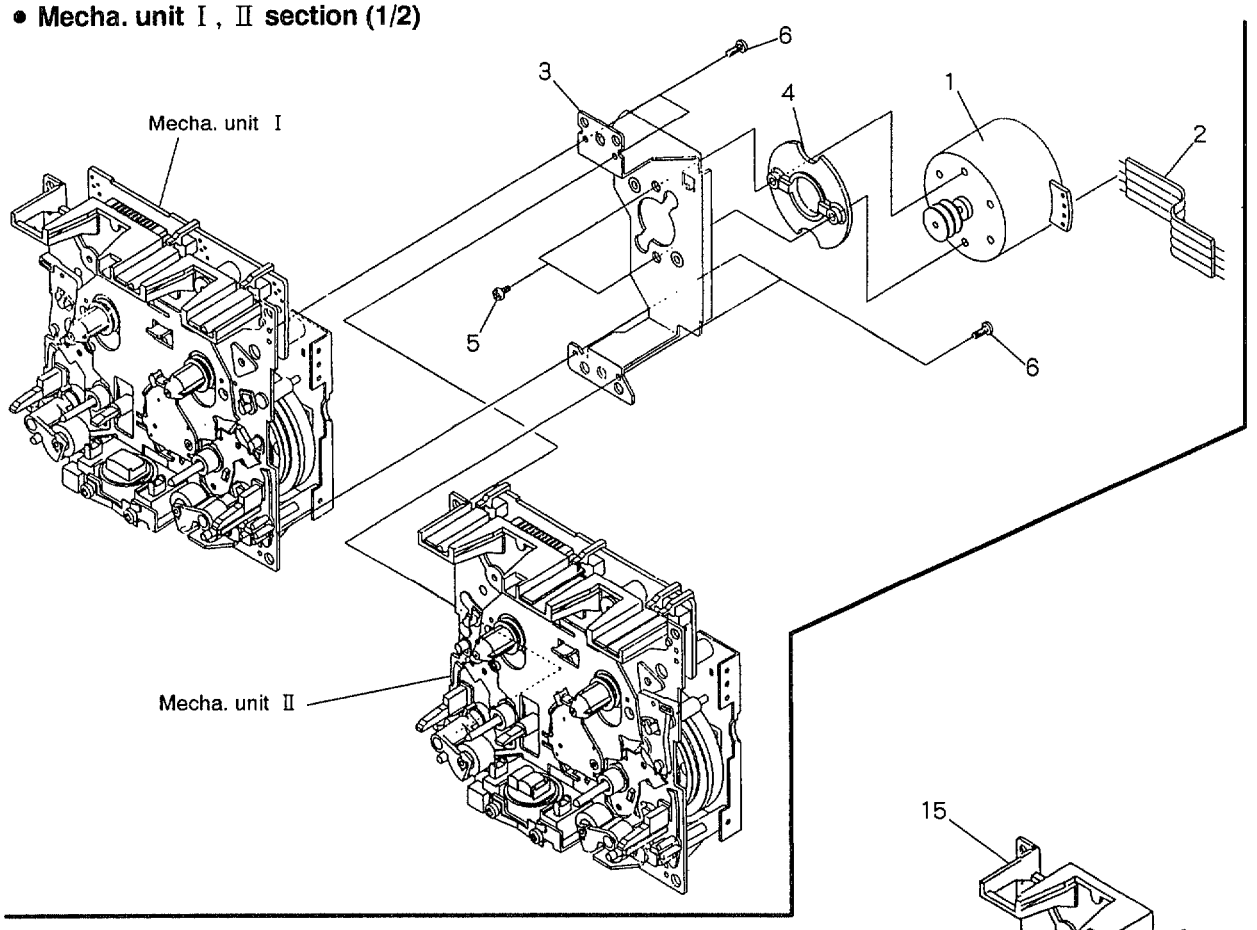


Parts List

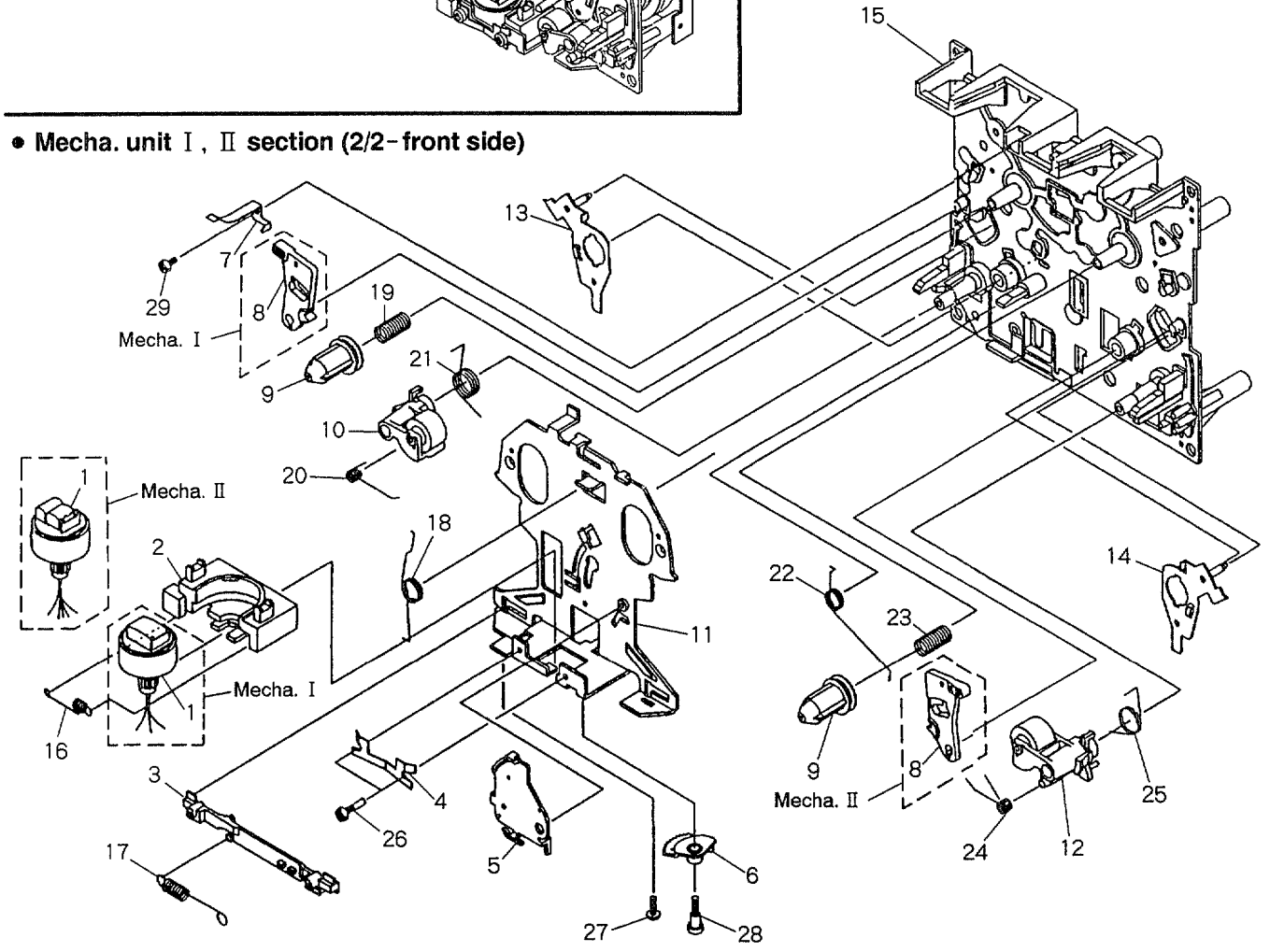
Mark	No.	Description	Parts No.
	1	Servo Mechanism	AXA7039
	2	SPINDLE MOTOR ASSY	AEA7009
	3	SLEAD MOTOR ASSY	AEA7010
	4	Gear A	AEA7013
	5	Gear B	AEA7014
	6	Screw	AEA7015
	7	Screw	AEA7016
	8	Screw	AEA7017
	9	Screw	AEA7018
	10	Leaf Switch	AEA7011

2.7 MECHANISM UNIT SECTION (1/2), (2/2) FRONT

• **Mecha. unit Ⅰ, Ⅱ section (1/2)**



• **Mecha. unit Ⅰ, Ⅱ section (2/2-front side)**



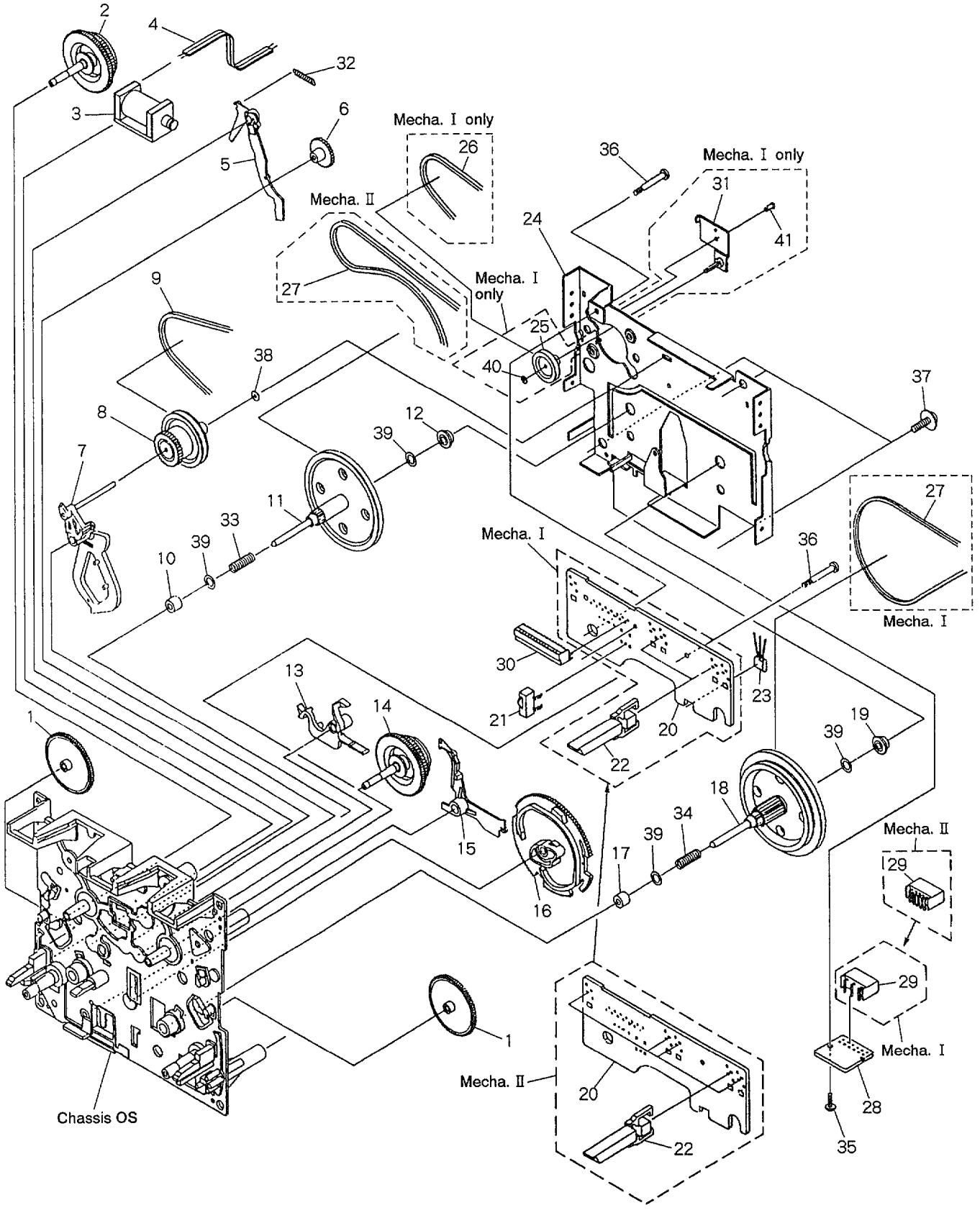
Parts List For Mechanism Unit Section (1/2)

Mark	No.	Description	Parts No.
	1	Assy Motor	RXM1080
NSP	2	Jumper Cable	RDD1012
	3	Bracket Motor	RNE1830
	4	Spacer	RNK1822
	5	Screw	RBA1100
	6	Screw	PCZ20P040FMC

Parts List For Mechanism Unit Section (2/2) Front

Mark	No.	Description	Parts No.
	1	Assy Holder Head (Mecha. I)	RXA1400
	1	Assy Holder Head (Mecha. II)	RXA1664
	2	Frame Head	RNK1715
	3	Lever Head	RNK1716
	4	Spring Azimuth	RBK1006
	5	Assy Arm Assist	RXA1401
	6	Gear Arm Head	RNK1717
	7	Spring Cassette	RBK1039
	8	Eject Lock	RNK1718
	9	Cap Reel	RNK1719
	10	Assy Pinch Arm L	RXA1403
	11	Chassis Head	RNE1437
	12	Assy Pinch Arm R	RXA1404
	13	Arm Play L	RNK1866
	14	Arm Play R	RNK1868
	15	Chassis OS	RXA1411
	16	Spring	RBH1282
	17	Spring	RBH1283
	18	Spring	RBH1284
	19	Spring	RBH1286
	20	Spring	RBH1288
	21	Spring	RBH1291
	22	Spring	RBH1285
	23	Spring	RBH1287
	24	Spring	RBH1289
	25	Spring	RBH1290
	26	Screw (azimuth)	RBA1023
	27	Screw	RBA1027
	28	Screw	RBA1030
	29	Screw	PCZ20P040FMC

2.8 MECHANISM UNIT SECTION (2/2) REAR



Parts List

Mark	No.	Description	Parts No.
	1	Gear Play	RNK1867
	2	Assy Sub Reel L	RXA1407
	3	Solenoid	RXP1020
	4	Wire	RDC1006
	5	Arm RVS	RNK1721
	6	Gear FF	RNK1723
	7	Assy Arm FR	RXA1412
	8	Assy Pulley FR	RXA1413
	9	Belt FR	REB1292
	10	Metal	RNG1048
	11	Assy Flywheel L	RXA1690
	12	Metal	RNG1005
	13	Arm Brake	RNK1724
	14	Assy Sub Reel R	RXA1408
	15	Arm Trigger	RNK1722
	16	Gear Cam	RNK1725
	17	Metal	RNG1049
	18	Assy Flywheel R	RXA1691
	19	Metal	RNG1004
	20	P.C. Board	RNP1610
	21	Switch Mode	RSN1020
	22	Switch (LEAF)	RSN1019
	23	Hall IC	DN6851A
	24	Bracket FW (Mecha. I)	RNE1854
	24	Bracket FW (Mecha. II)	RNE1438
	25	Pulley (Mecha. I only)	RNK2132
	26	Belt FW (Mecha. II only)	REB1291
	27	Belt Main (Mecha. I)	REB1290
	27	Belt Main (Mecha. II)	REB1289
	28	P.C. Board	RNP1348
	29	Housing (Mecha. I)	RKP1396
	29	Housing (Mecha. II)	RKP1397
	30	Connector (Mecha. I)	RKP1713
	30	Connector (Mecha. II)	RKP1714
	31	Assy Holder (Mecha. I only)	RXA1689
	32	Spring	RBH1292
	33	FWR SP (Spring)	RBH1061
	34	Spring	RBH1325
	35	Screw	PCZ20P040FMC
	36	Screw	RBA1093
	37	Screw	RBA1094
	38	Washer	RBF1046
	39	Washer	WA26D047D013
	40	Washer (Mecha. I only)	WT13D030D025
	41	Screw (Mecha. I only)	RBA1118

3. SCHEMATIC DIAGRAM

3.1 OVERALL CONNECTION AND PRIMARY ASSY

NOTE FOR SCHEMATIC DIAGRAMS (Type 1A)

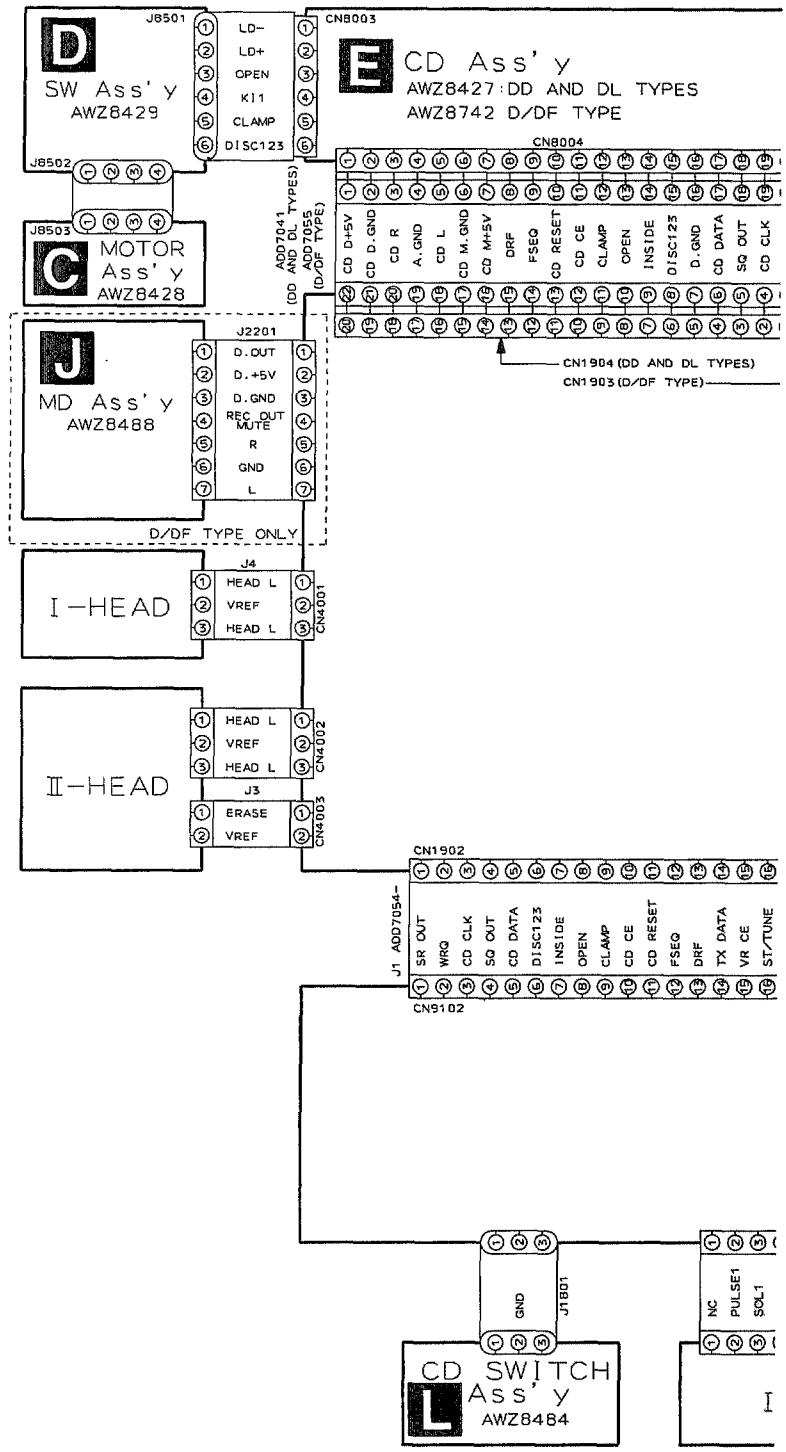
1. **When ordering service parts, be sure to refer to "PARTS LIST of EXPLODED VIEWS" or "PCB PARTS LIST".**
2. **Since these are basic circuits, some parts of them or the values of some components may be changed for improvement.**
3. **RESISTORS:**
   Unit: k:kΩ, M:MΩ, or Ω unless otherwise noted.
   Rated power: 1/4W, 1/6W, 1/8W, 1/10W unless otherwise noted.
   Tolerance: (F): ±1%, (G): ±2%, (K): ±10%, (M): ±20% or ±5% unless otherwise noted.
4. **CAPACITORS:**
   Unit: p:pF or μF unless otherwise noted.
   Ratings: capacitor (μF)/voltage(V) unless othrewise noted.
   Rated voltage: 50V except for electrolytic capacitors.
5. **COILS:**
   Unit: m:mH or μH unless otherwise noted.
6. **VOLTAGE AND CURRENT:**
   V : Signal voltage at rated output.
   or ← V:
   DC voltage (V) at no input signal unless otherwise noted.
   Value in ( ) is DC voltage at rated power.
   ⇦ mA or ← mA:
   DC current at no input signal unless otherwise noted.
7. **OTHERS:**
   • ⊘ or ⊘ : Adjusting point.
   • ◀ : Measurement point.
   • The ⚠ mark found on some component parts indicates the importance of the safety factor of the parts. Therefore, when replacing, be sure to use parts of identical designation.
8. **SWITCHES** (Underline indicates switch position):

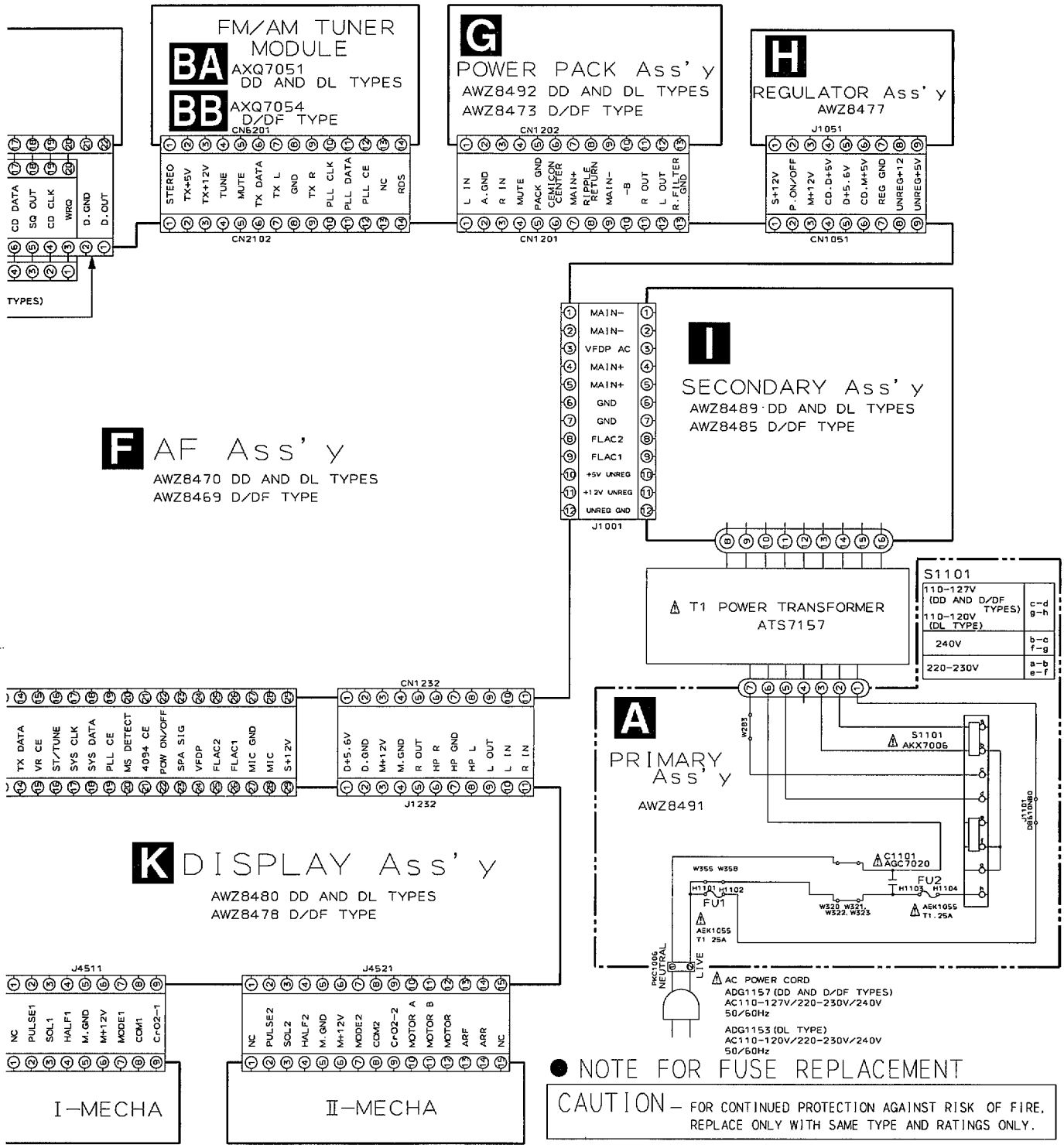
MOTOR ASSY
S8503 : OPEN

SW ASSY
S8501 : CLAMP
S8502 : DISC123

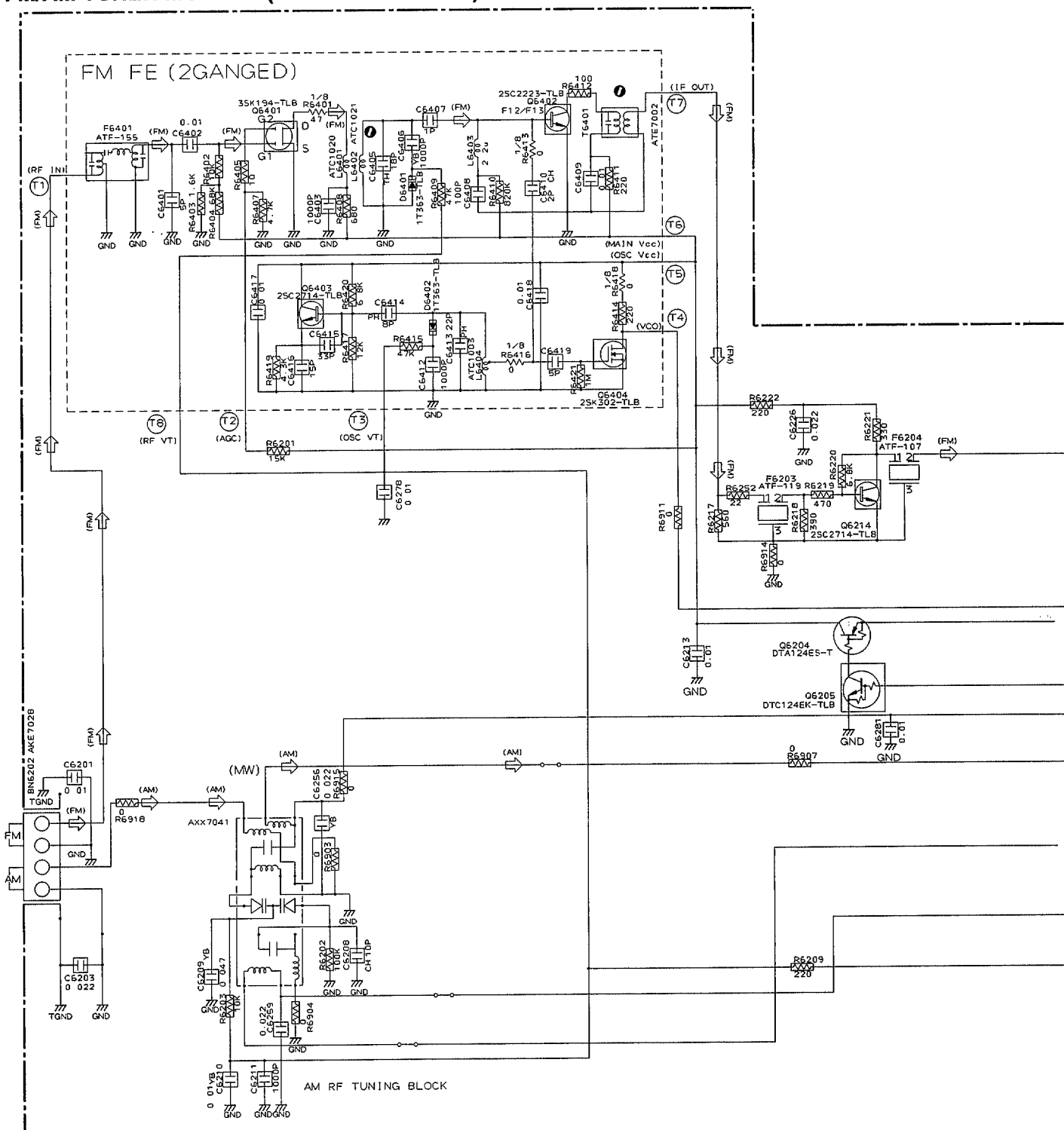
CD SWITCH ASSY
S1831 : DISC-1
S1832 : DISC-2
S1833 : DISC-3
S1834 : DISC CHANGE
S1835 : OPEN/CLOSE

DISPLAY ASSY
S1801 : VOLUME
S1811 : CD
S1812 : TAPE I/II
S1813 : FREQ STATION
S1814 : REC/STOP
S1815 : DOLBY ON/OFF
S1816 : P.BASS(DEMO)
S1817 : SFC/KARAOKE
S1818 : STEREO WIDE
S1821 : TUNER
S1822 : MD/AUX
S1823 : ■
S1824 : ◀START▶
S1825 : ▶▶I
S1826 : I◀◀
S1827 : MEMORY
S1828 : ASES COPY
S1829 : POWER STANDBY/ON
S1836 : TIME REC/WAKE-UP
S1837 : MONO
S1838 : CLOCK/CLOCK ADJ
S1839 : DISPLAY




FM/AM TUNER MODULE
BA AXQ7051 DD AND DL TYPES
BB AXQ7054 D/DF TYPE
CN6201
STEREO TX+5V TX+12V TUNE MUTE TX DATA TX L GND TX R PLL CLK PLL DATA PLL CE NC RDS
CN2102
G
POWER PACK Ass'y
AWZ8492 DD AND DL TYPES
AWZ8473 D/DF TYPE
CN1202
L IN A.GND R IN MUTE PACK GND CEM/CON CENTER MAIN+ RIPPLE RETURN MAIN− −B R OUT L OUT R.FILTER GND
CN1201
H
REGULATOR Ass'y
AWZ8477
J1051
S+12V P.ON/OFF M+12V CD.D+5V D+5.6V CD.M+5V REG GND UNREG+12 UNREG+5V
CN1051
CD DATA SQ OUT CD CLK WRQ D.GND D.OUT
TYPES)
MAIN− MAIN− VFDP AC MAIN+ MAIN+ GND GND FLAC2 FLAC1 +5V UNREG +12V UNREG UNREG GND
J1001
I
SECONDARY Ass'y
AWZ8489 DD AND DL TYPES
AWZ8485 D/DF TYPE
F AF Ass'y
AWZ8470 DD AND DL TYPES
AWZ8469 D/DF TYPE
T1 POWER TRANSFORMER
ATS7157
S1101
110-127V (DD AND D/DF TYPES) c-d g-h
110-120V (DL TYPE)
240V b-c f-g
220-230V a-b e-f
CN1232
TX DATA VR CE ST/TUNE SYS CLK SYS DATA PLL CE MS DETECT 4094 CE PCM ON/OFF SPA SIG VFDP FLAC2 FLAC1 MIC GND MIC S+12V
D+5.6V D.GND M+12V M.GND R OUT HP R HP GND HP L L OUT L IN R IN
J1232
A
PRIMARY Ass'y
AWZ8491
S1101 AKX7006
C1101 AGC7020
FU2
FU1
AEK1055 T1 25A
AEK1055 T1.25A
AC POWER CORD
ADG1157 (DD AND D/DF TYPES)
AC110-127V/220-230V/240V
50/60Hz
ADG1153 (DL TYPE)
AC110-120V/220-230V/240V
50/60Hz
K DISPLAY Ass'y
AWZ8480 DD AND DL TYPES
AWZ8478 D/DF TYPE
J4511
NC PULSE1 SOL1 HALF1 M.GND M+12V MODE1 COM1 C-O2-1
J4521
NC PULSE2 SOL2 HALF2 M.GND M+12V MODE2 COM2 C-O2-2 MOTOR A MOTOR B MOTOR ARF ARR NC
I-MECHA
II-MECHA
NOTE FOR FUSE REPLACEMENT
CAUTION – FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE AND RATINGS ONLY.

3.2 FM/AM TUNER MODULE (DD AND DL TYPES)



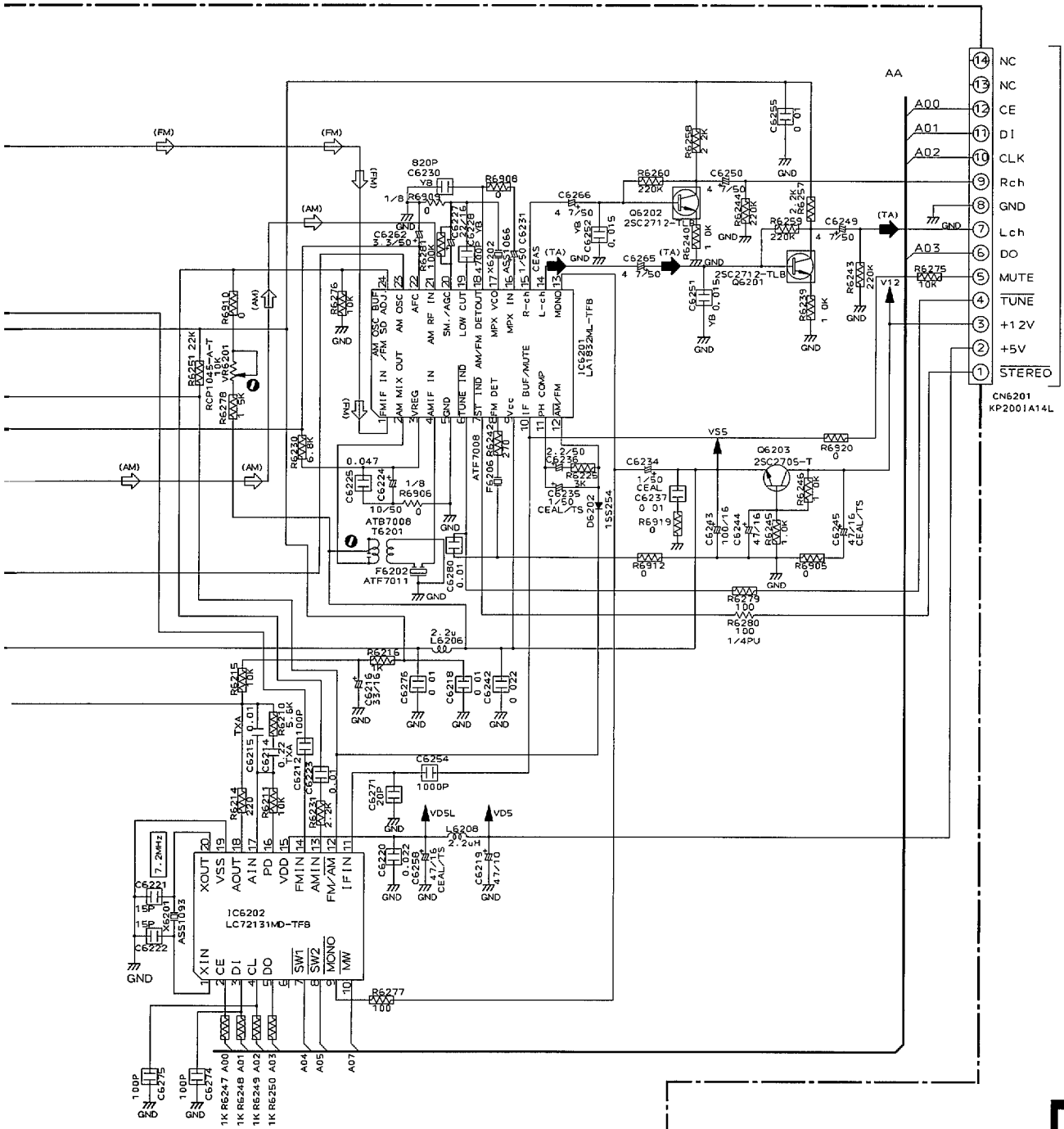
BA FM/AM TUNER MODULE
AXQ7051

SIGNAL ROUTE
(AM) : AM SIGNAL ROUTE
(FM) FM SIGNAL ROUTE
(TA) TUNER AUDIO SIGNAL ROUTE

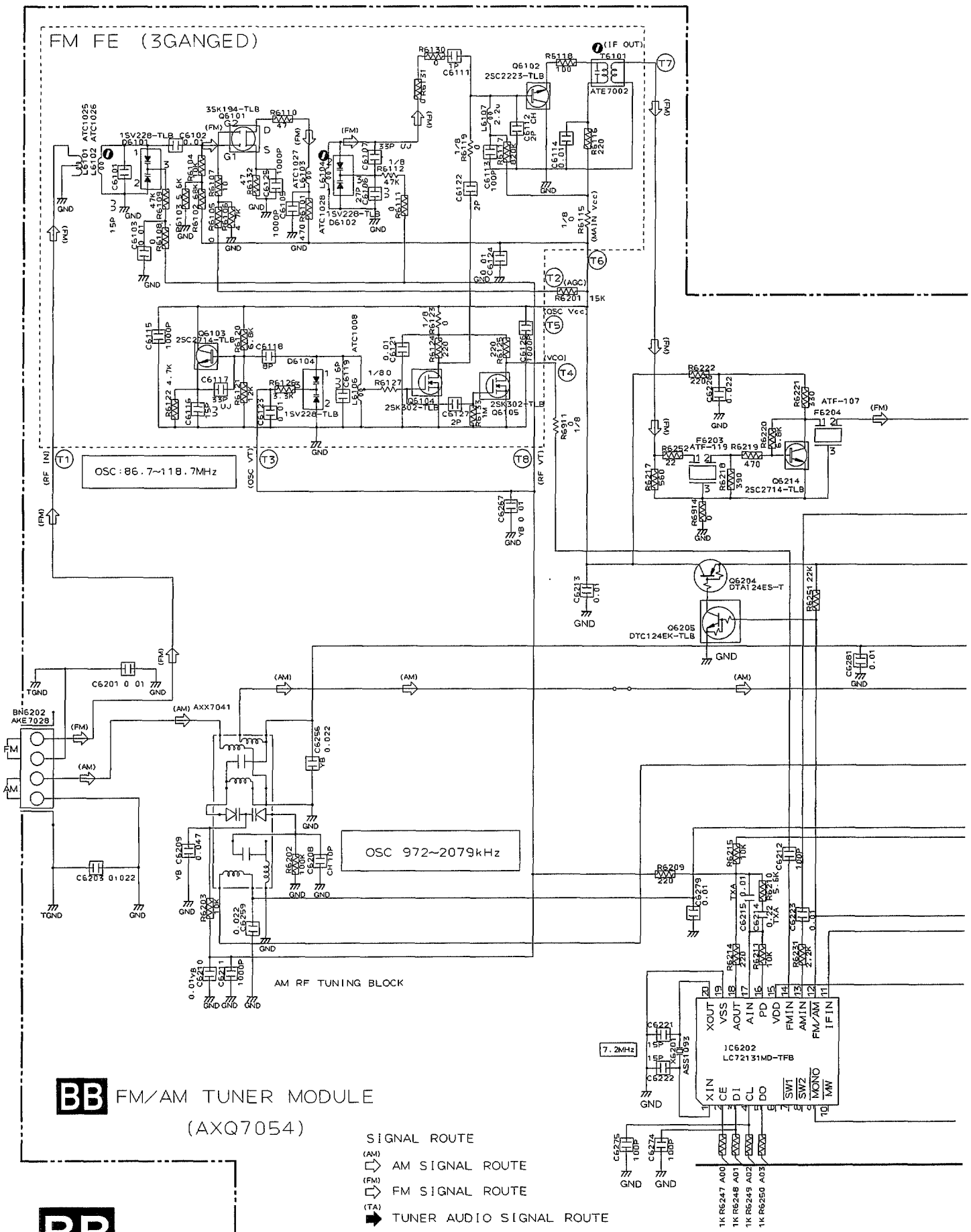
Notes

1. RESISTORS
   Indicated in Ω, 1/10W±5% Tolerance unless otherwise noted K:KΩ, M:MΩ.

2. CAPACITORS
   Indicated in Capacity(μF)/VOLTAGE(V) unless otherwise noted P:PF.

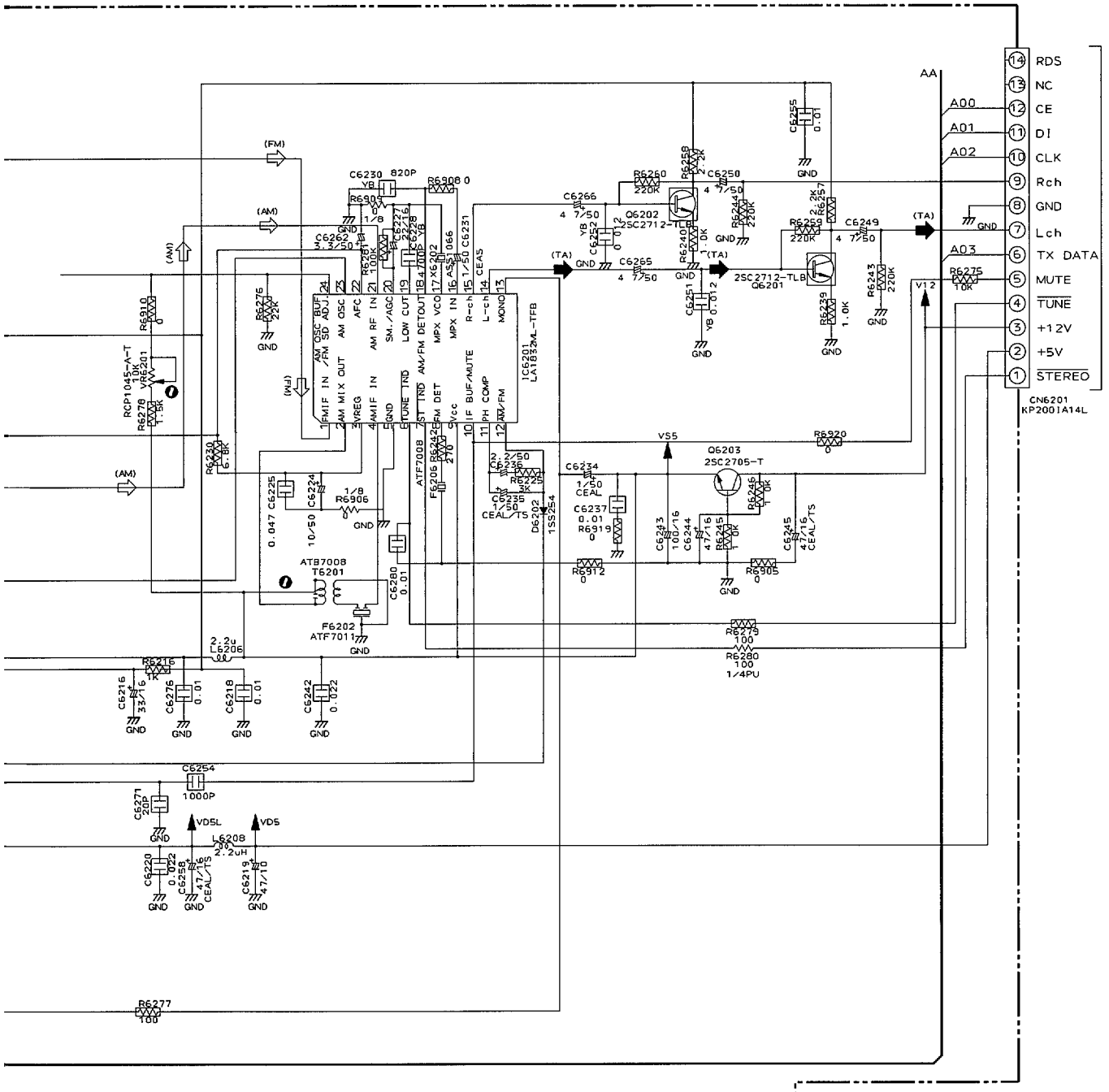


3.3 FM/AM TUNER MODULE (D/DF TYPE)

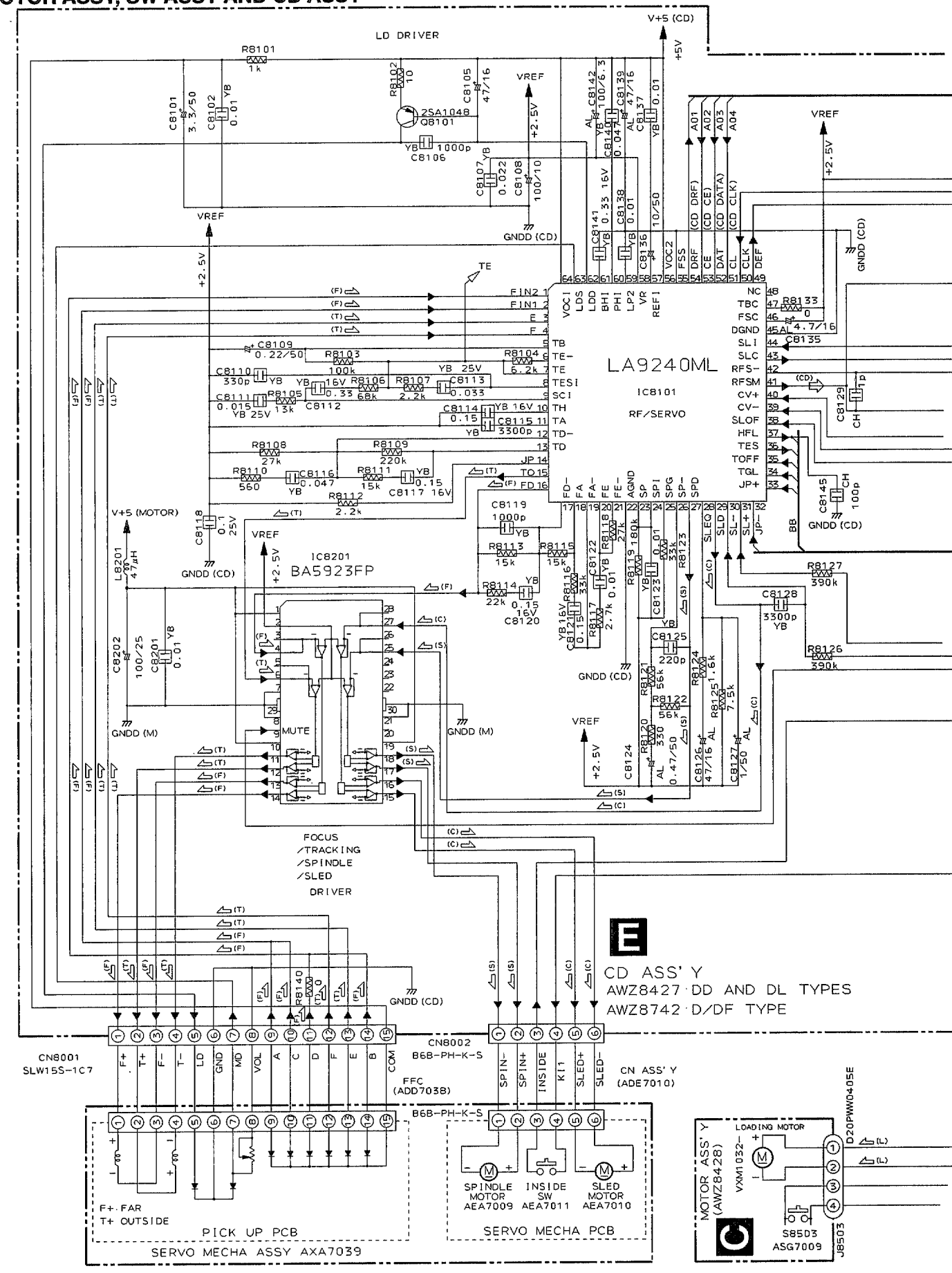


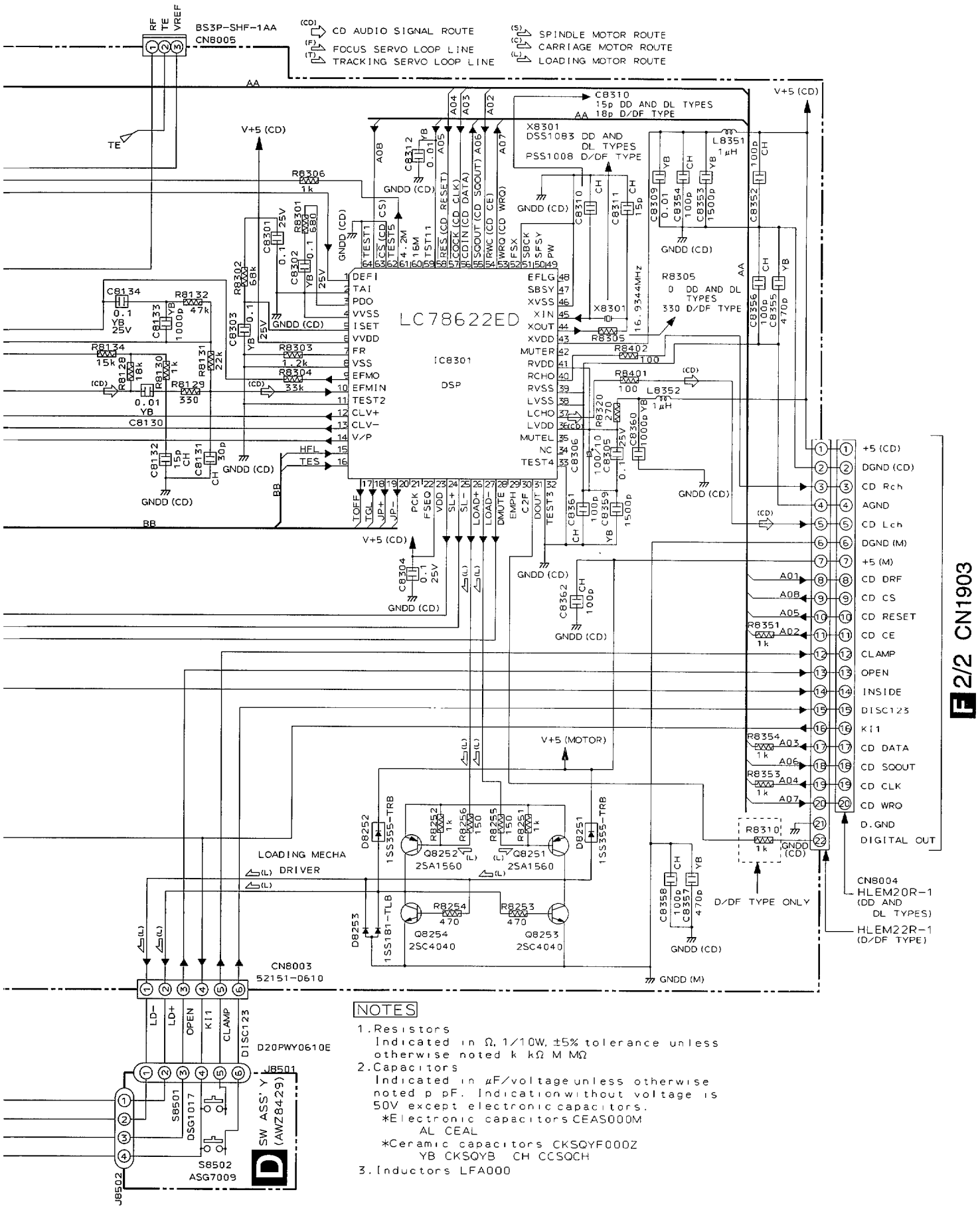
Notes

1. RESISTORS
   Indicated in Ω, 1/10W±5% Tolerance unless otherwise noted K.KΩ, M.MΩ.
2. CAPACITORS
   Indicated in Capacity(μF)/VOLTAGE(V) unless otherwise noted P.PF.



3.4 MOTOR ASSY, SW ASSY AND CD ASSY

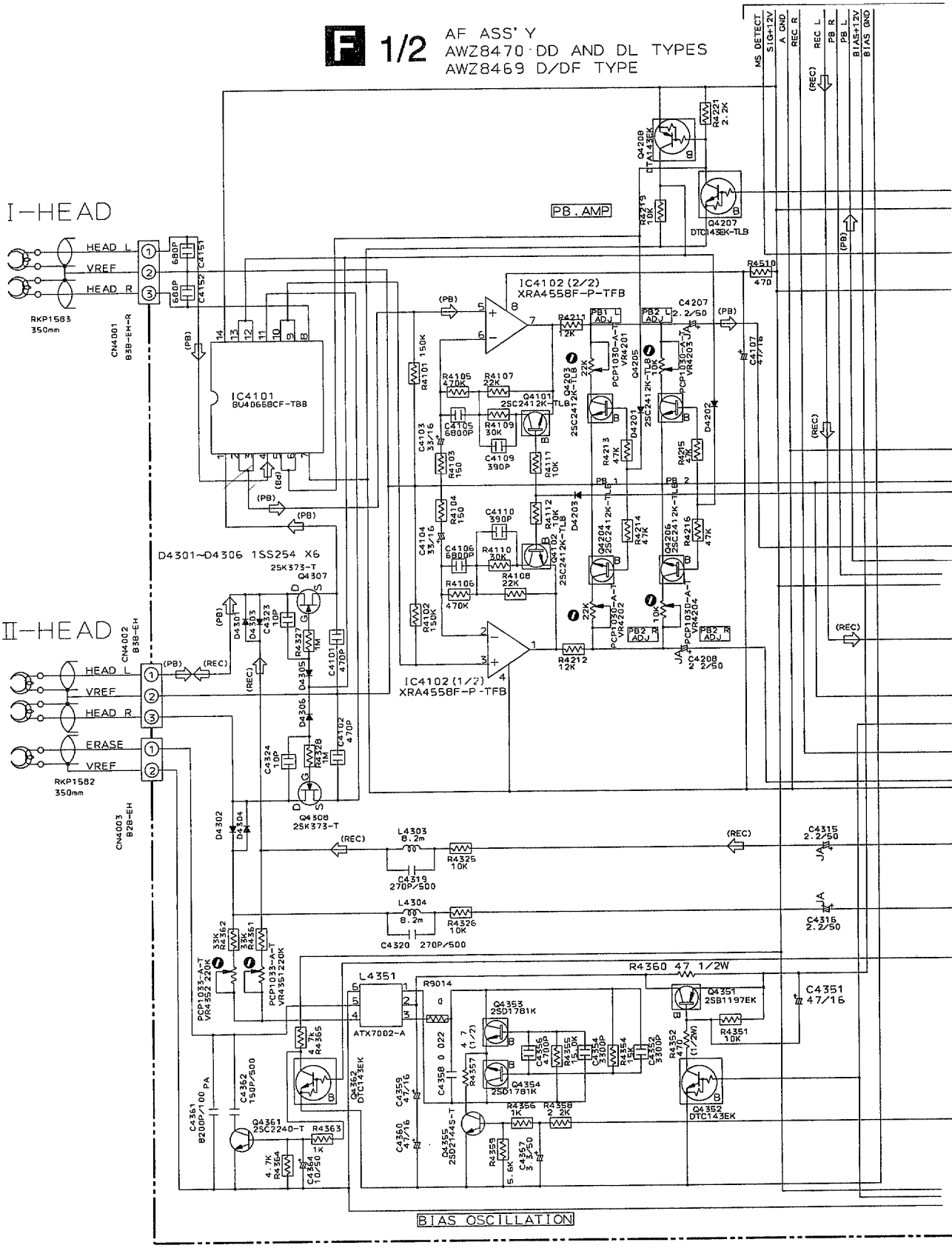




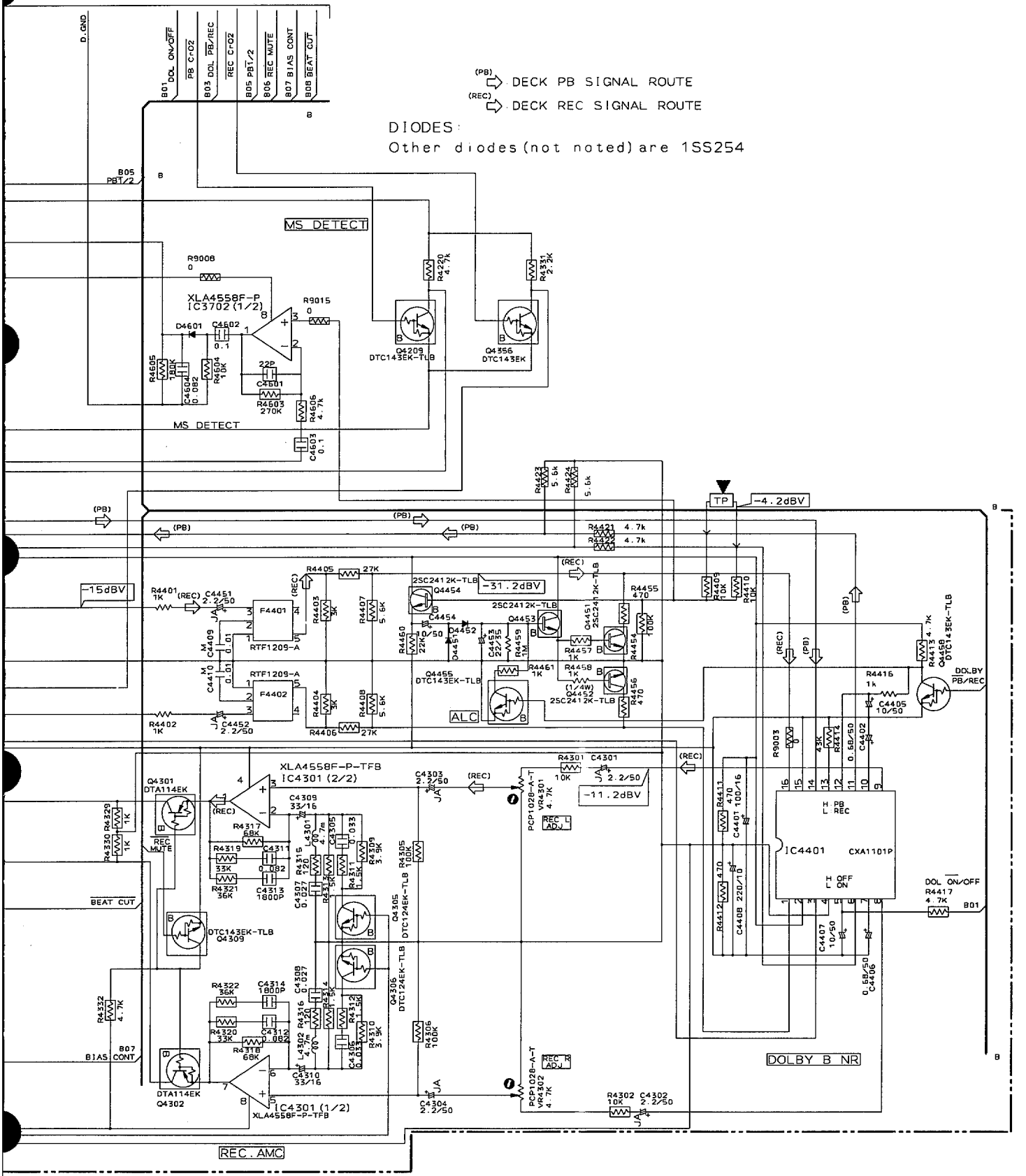
NOTES

1. Resistors
   Indicated in Ω, 1/10W, ±5% tolerance unless otherwise noted k kΩ M MΩ
2. Capacitors
   Indicated in μF/voltage unless otherwise noted p pF. Indication without voltage is 50V except electronic capacitors.
   *Electronic capacitors CEAS000M
   AL CEAL
   *Ceramic capacitors CKSQYF000Z
   YB CKSQYB CH CCSQCH
3. Inductors LFA000

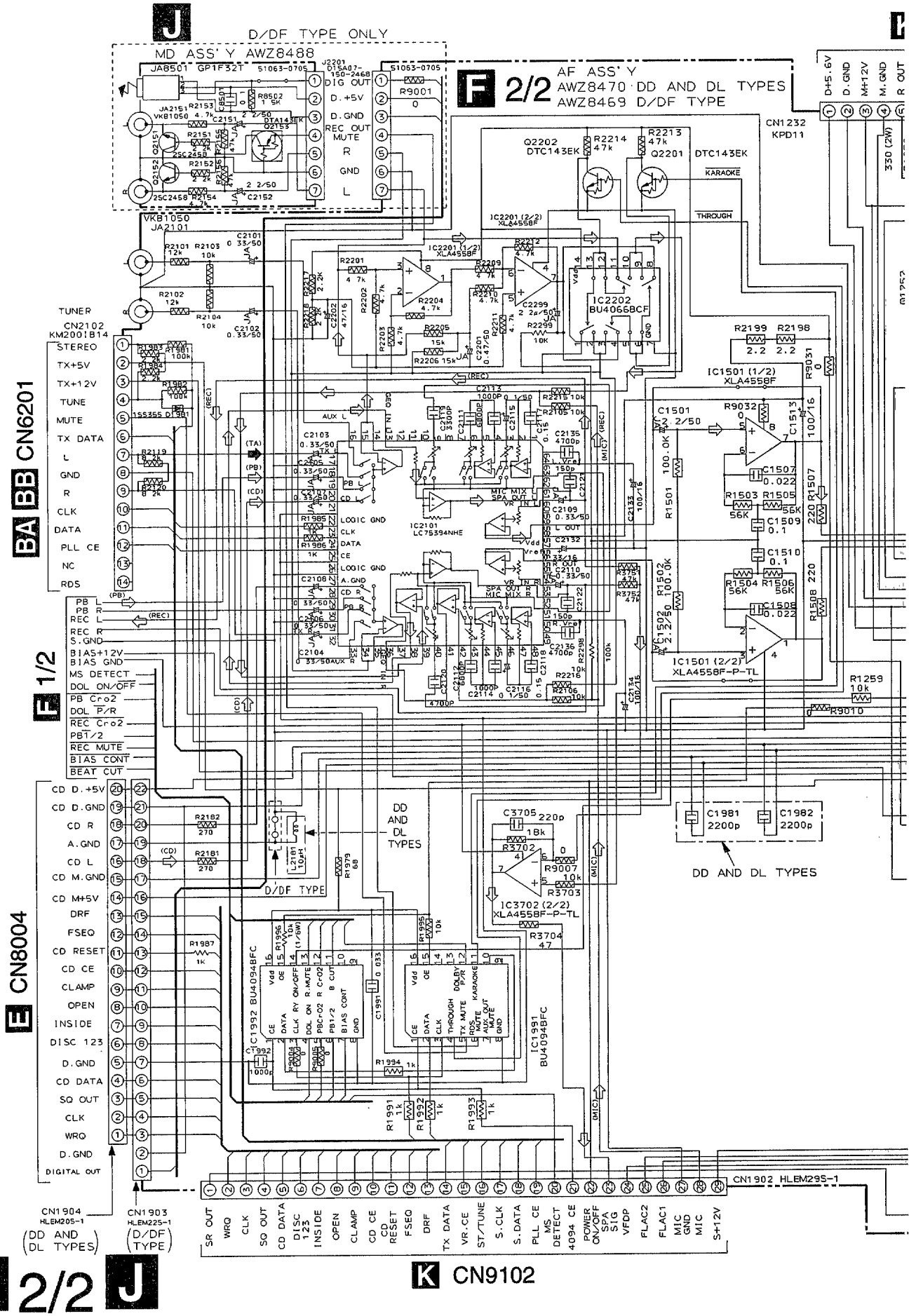
3.5 AF ASSY(1/2)

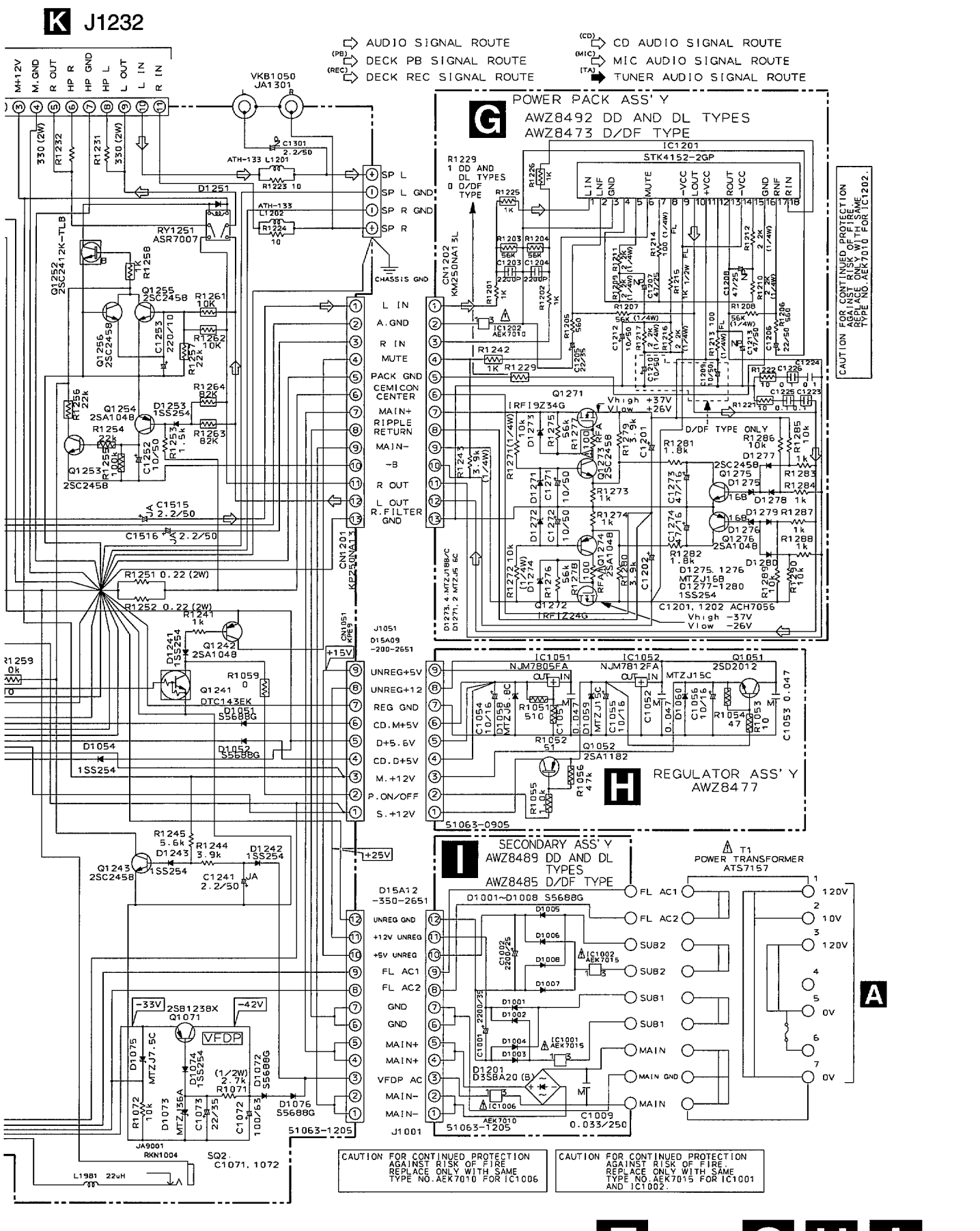

F 1/2
AF ASS' Y
AWZ8470 DD AND DL TYPES
AWZ8469 D/DF TYPE
I-HEAD
II-HEAD
HEAD L
VREF
HEAD R
ERASE
RKP1583
350mm
RKP1582
350mm
CN4001
CN4002
CN4003
IC4101
BU4066BCF-TBB
IC4102(2/2)
XRA4558F-P-TFB
IC4102(1/2)
XRA4558F-P-TFB
PB.AMP
D4301~D4306 1SS254 X6
Q4307
Q4308
2SK373-T
Q4207
DTC143EK-TLB
L4303
8.2m
L4304
8.2m
L4351
ATX7002-A
R4360 47 1/2W
BIAS OSCILLATION
MS DETECT
SIG+12V
A. GND
REC R
REC L
PB R
PB L
BIAS+12V
BIAS GND

F 2/2

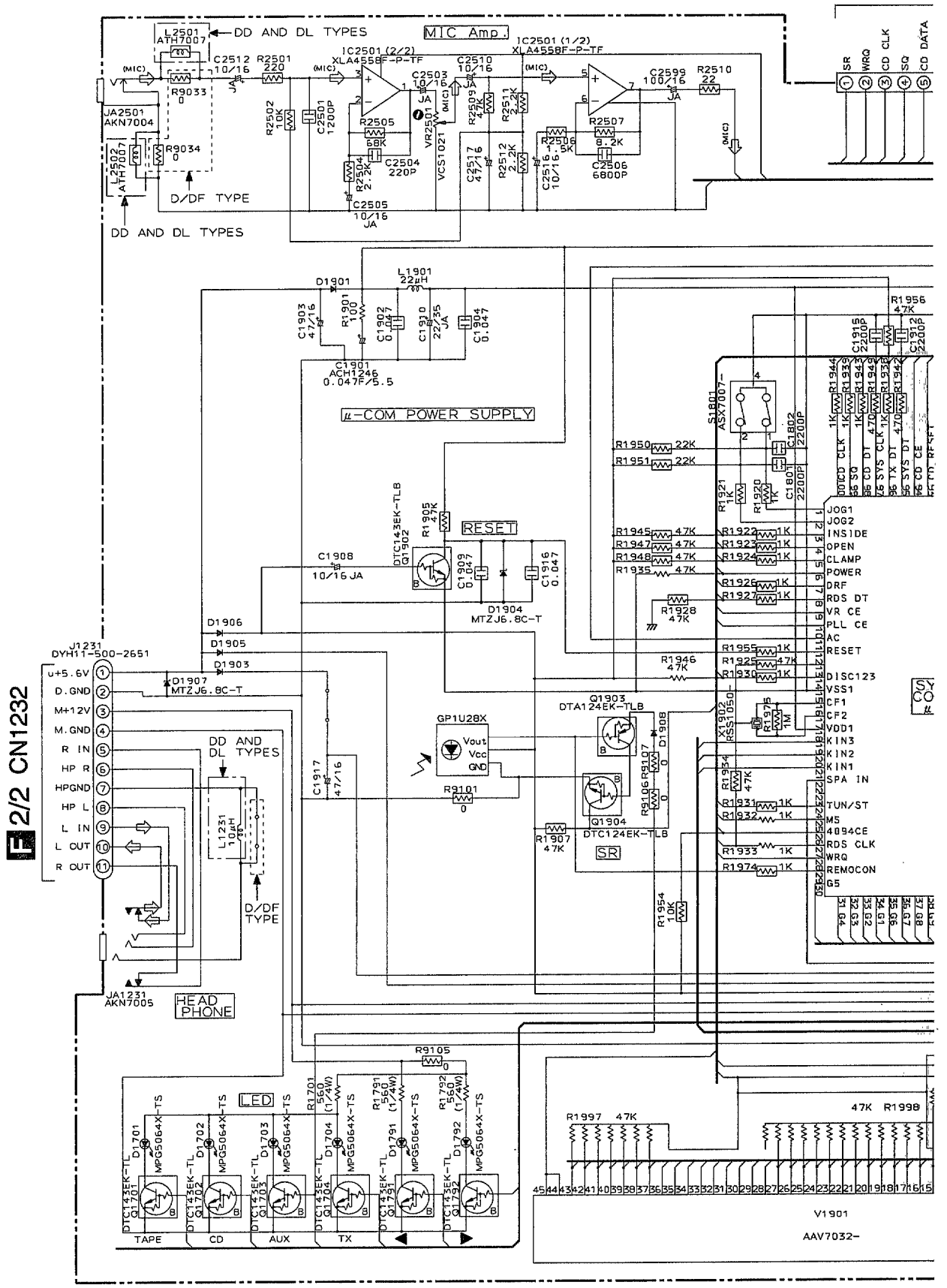

(PB) DECK PB SIGNAL ROUTE
(REC) DECK REC SIGNAL ROUTE
DIODES:
Other diodes(not noted)are 1SS254
D.GND
B01 DOL ON/OFF
PB C-02
B03 DOL PB/REC
REC C-02
B05 PBT/2
B06 REC MUTE
B07 BIAS CONT
B08 BEAT CUT
MS DETECT
XLA4558F-P
IC3702 (1/2)
Q4209 DTC143EK-TLB
Q4356 DTC143EK
-4.2dBV
-15dBV
-31.2dBV
-11.2dBV
ALC
XLA4558F-P-TFB
IC4301 (2/2)
IC4301 (1/2)
DTA114EK Q4302
DTC143EK-TLB Q4309
DTA114EK Q4301
DTC124EK-TLB Q4305
DTC124EK-TLB Q4306
2SC2412K-TLB Q4454
2SC2412K-TLB Q4451
2SC2412K-TLB Q4452
DTC143EK-TLB Q4455
DTC143EK-TLB Q4458
RTF1209-A F4401
RTF1209-A F4402
PCP1028-A-T VR4301 4.7K
PCP1028-A-T VR4302 4.7K
REC L ADJ
REC R ADJ
IC4401 CXA1101P
DOLBY PB/REC
DOL ON/OFF
BEAT CUT
BIAS CONT
DOLBY B NR
REC : AMC

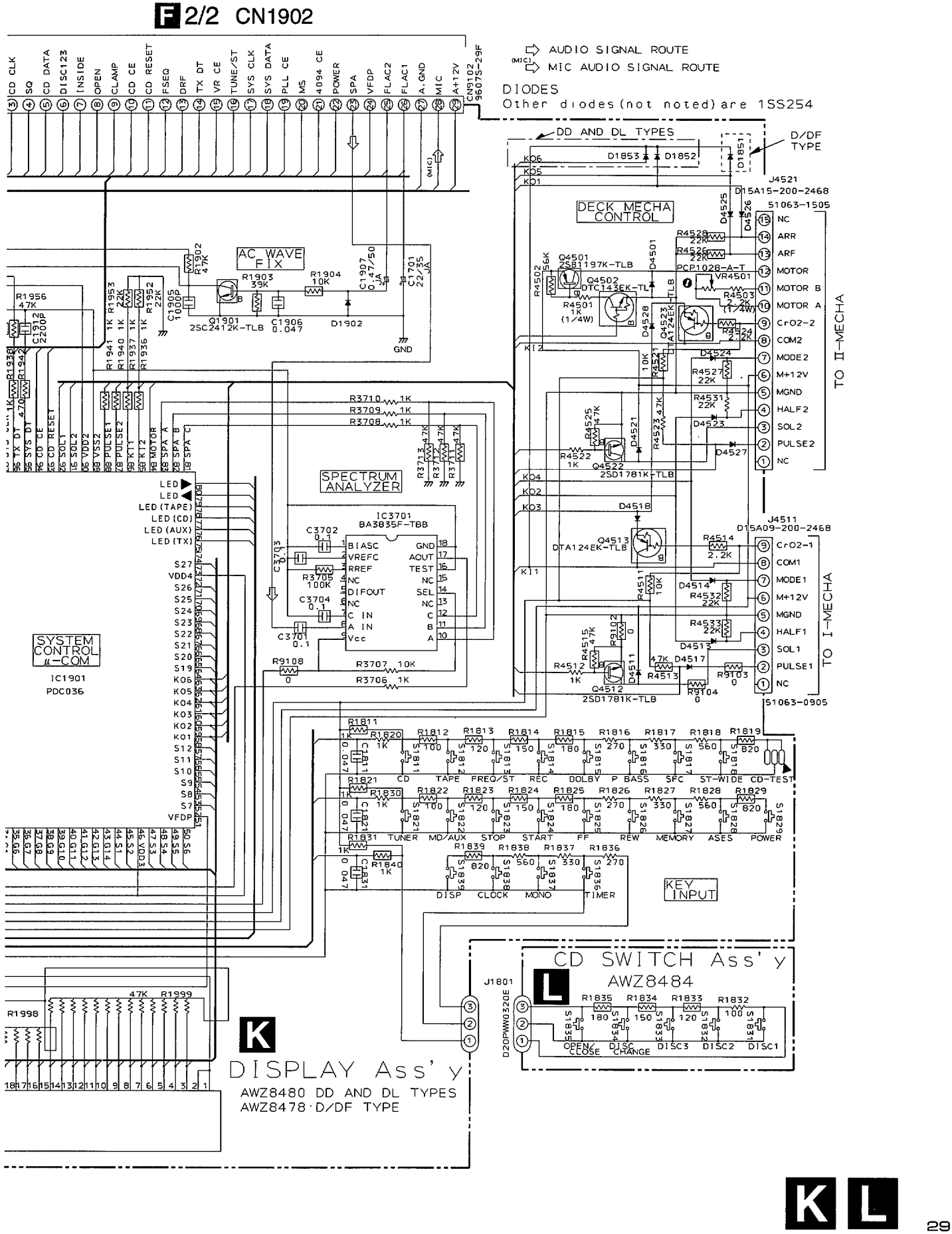
3.6 AF ASSY(2/2), POWER PACK ASSY, REGULATOR ASSY, SECONDARY ASSY AND MD ASSY




K J1232
AUDIO SIGNAL ROUTE
DECK PB SIGNAL ROUTE
DECK REC SIGNAL ROUTE
CD AUDIO SIGNAL ROUTE
MIC AUDIO SIGNAL ROUTE
TUNER AUDIO SIGNAL ROUTE
G POWER PACK ASS'Y
AWZ8492 DD AND DL TYPES
AWZ8473 D/DF TYPE
H REGULATOR ASS'Y
AWZ8477
I SECONDARY ASS'Y
AWZ8489 DD AND DL TYPES
AWZ8485 D/DF TYPE
A
F 2/2 G H I
CAUTION FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE NO.AEK7010 FOR IC1202.
CAUTION FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE NO.AEK7010 FOR IC1006
CAUTION FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE NO.AEK7015 FOR IC1001 AND IC1002.

3.7 DISPLAY ASSY AND CD SWITCH ASSY

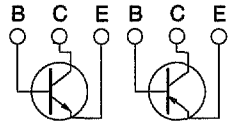
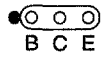
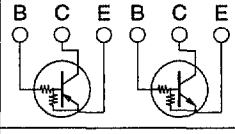
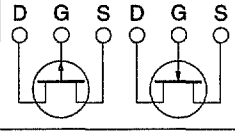
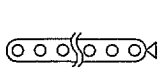
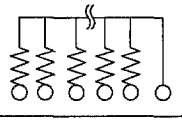
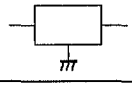



F 2/2 CN1902
AUDIO SIGNAL ROUTE
MIC AUDIO SIGNAL ROUTE
DIODES
Other diodes (not noted) are 1SS254
DD AND DL TYPES
D/DF TYPE
DECK MECHA CONTROL
AC WAVE FIX
SPECTRUM ANALYZER
IC3701 BA3835F-TBB
SYSTEM CONTROL μ-COM
IC1901 PDC036
TO II-MECHA
TO I-MECHA
J4521 D15A15-200-2468
51063-1505
J4511 D15A09-200-2468
51063-0905
KEY INPUT
CD SWITCH Ass'y AWZ8484
DISPLAY Ass'y
AWZ8480 DD AND DL TYPES
AWZ8478 D/DF TYPE

4. PCB CONNECTION DIAGRAM

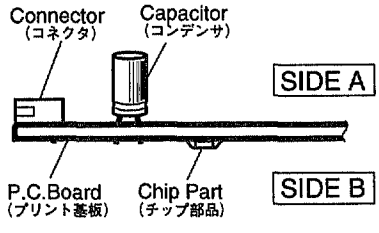
NOTE FOR PCB DIAGRAMS

1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

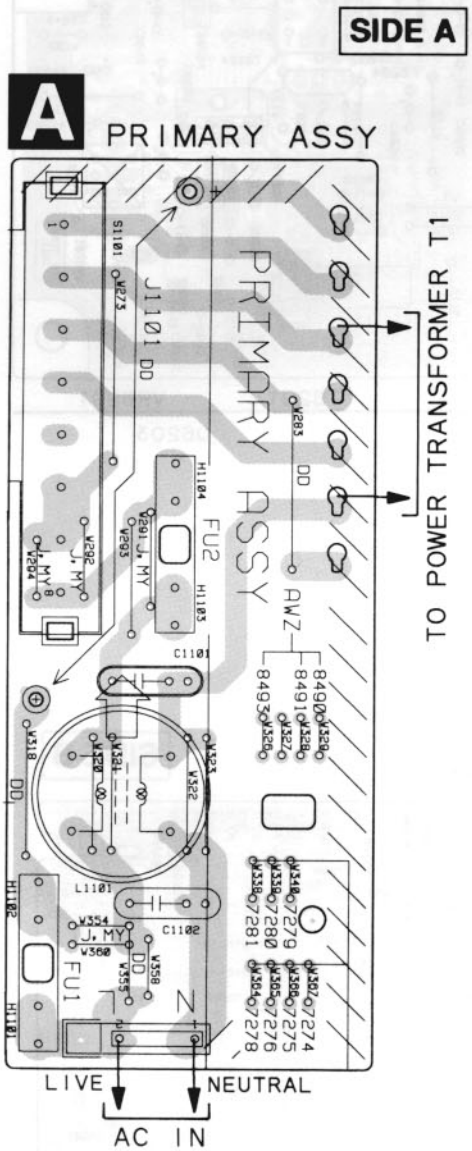
Symbol in PCB Diagrams	Symbol in Schematic Diagrams	Part Name
		Transistor
		Transistor with resistor
		Field effect transistor
		Resistor array
		3-terminal regulator

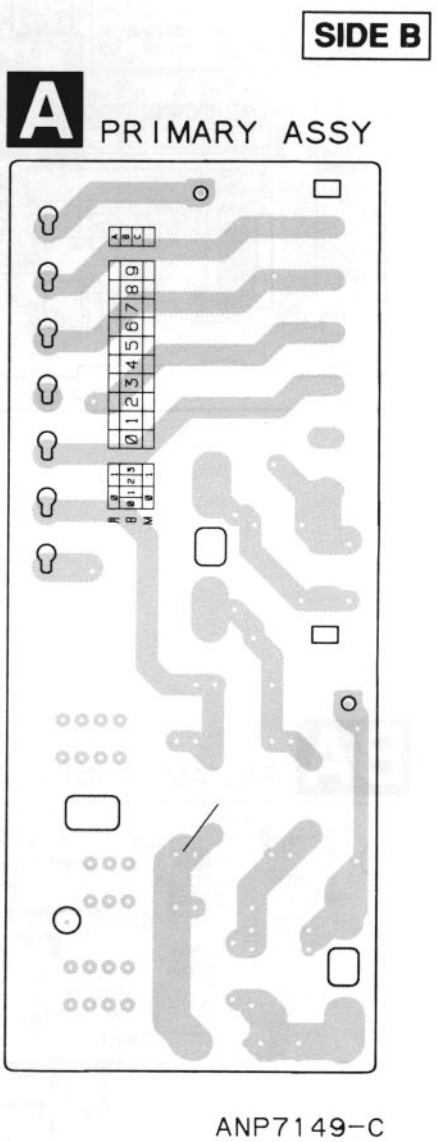
3. The parts mounted on this PCB include all necessary parts for several destination.
   For further information for respecitve destinations, be sure to check with the schematic diagram.

4. Viewpoint of PCB diagrams



4.1 PRIMARY ASSY





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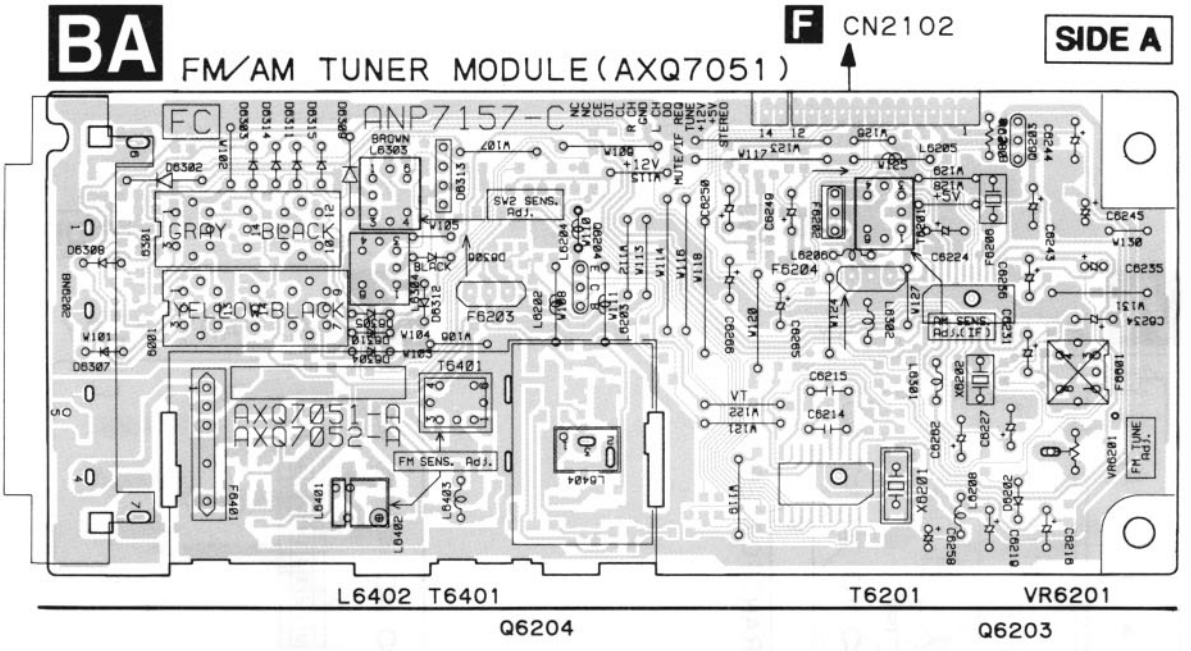
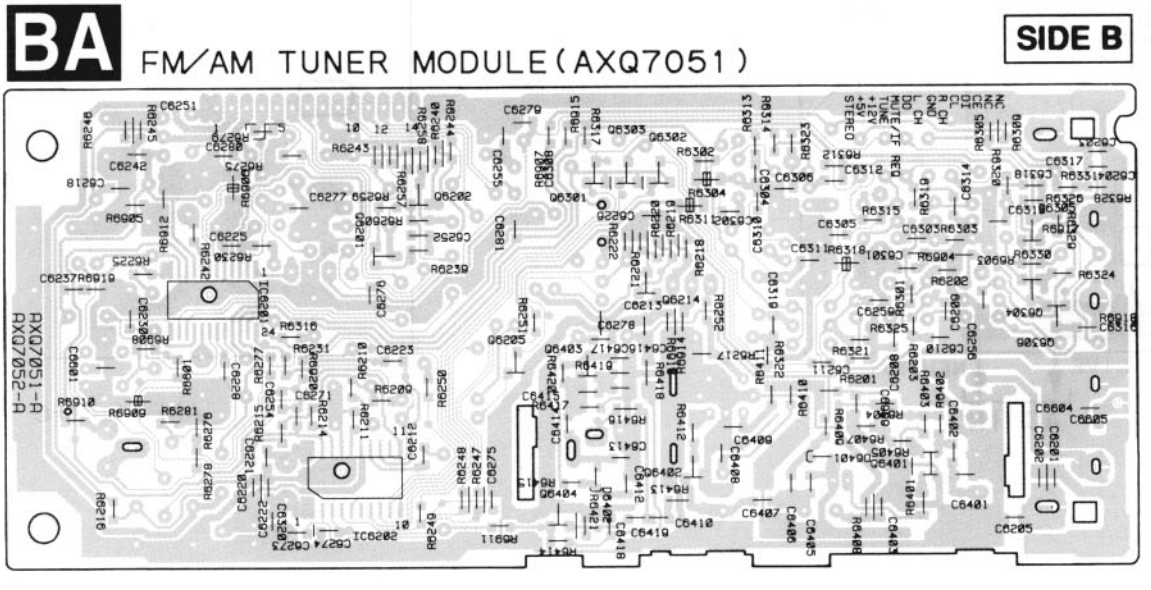
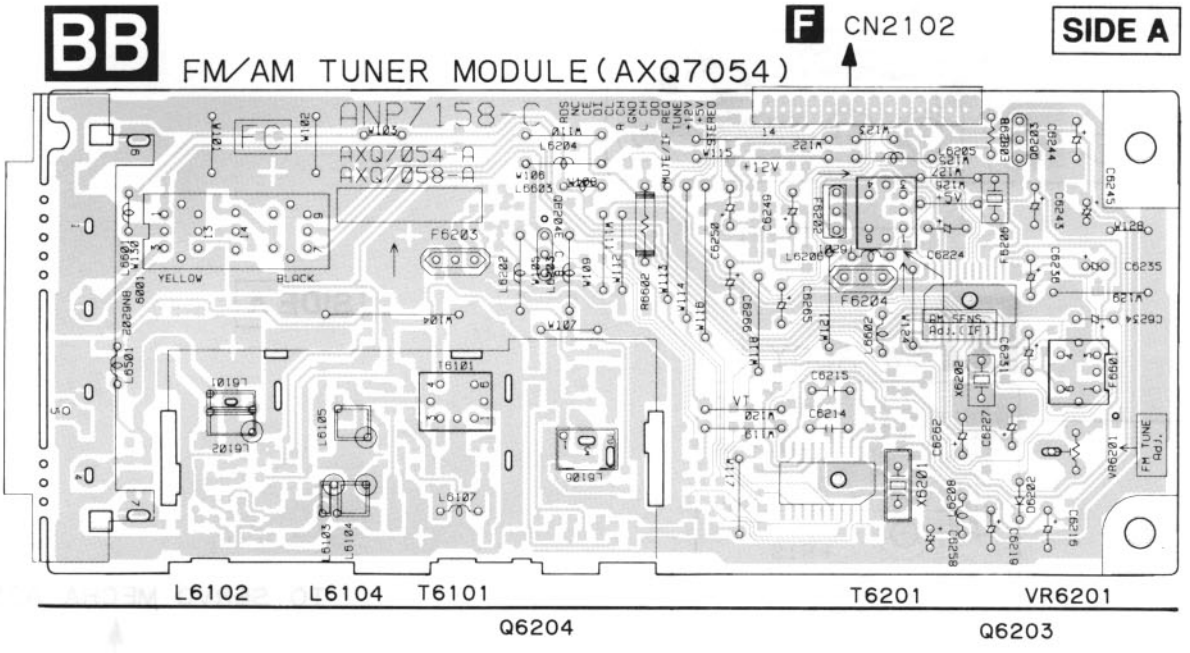
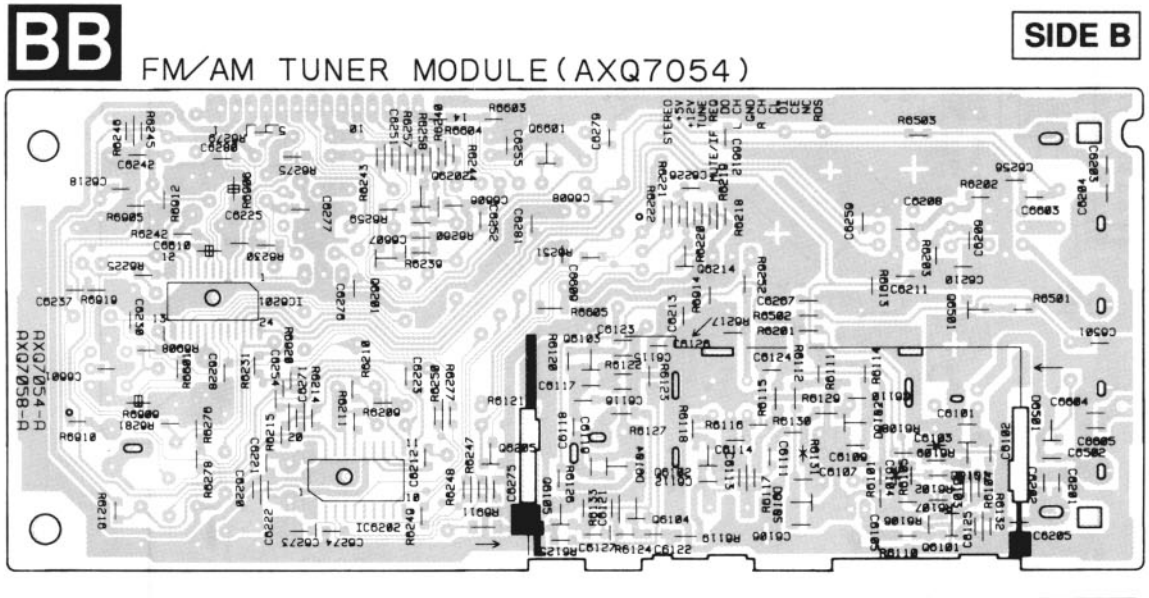
4.2 FM/AM TUNER MODULE (DD AND DL TYPES)





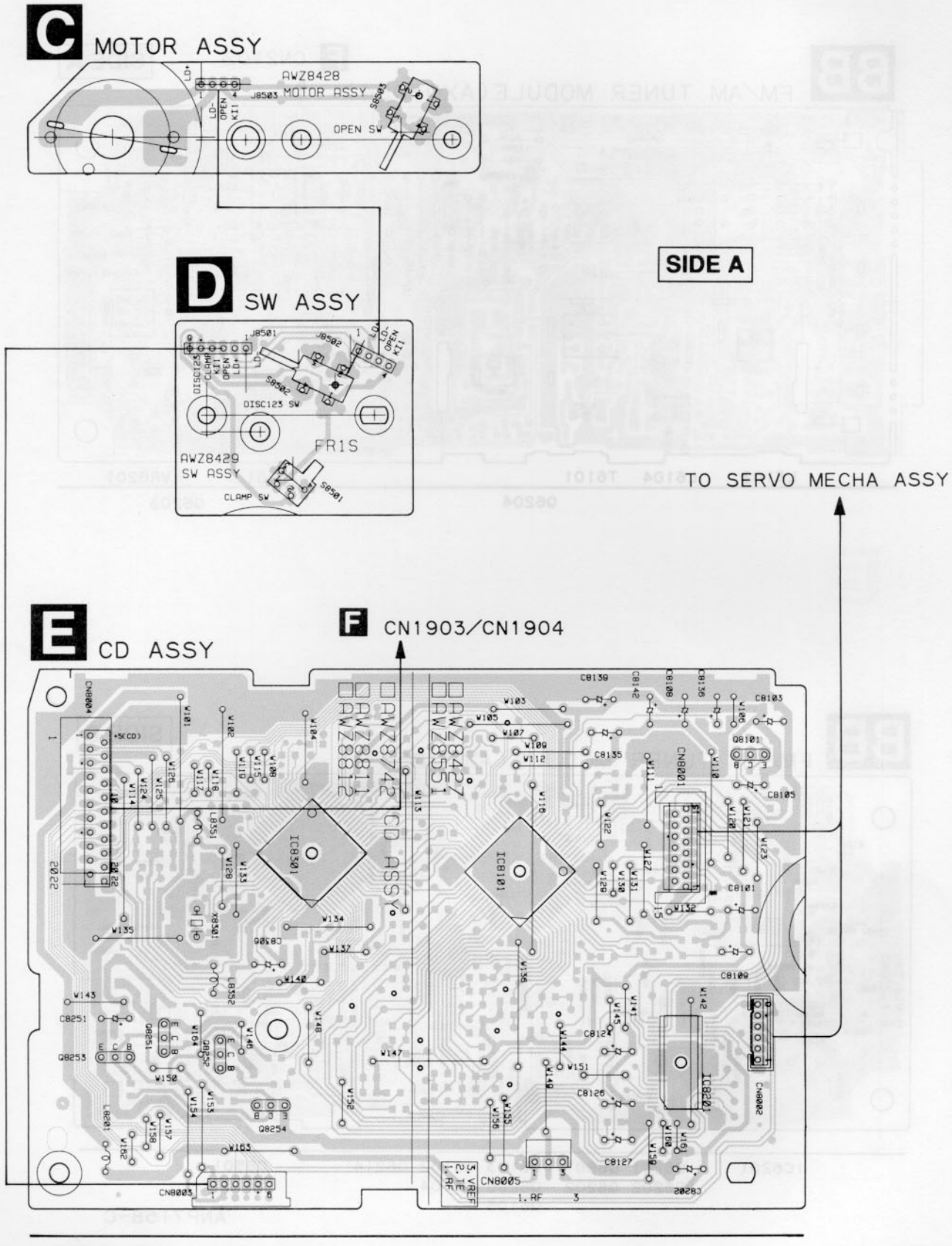
4.3 FM/AM TUNER MODULE (D/DF TYPE)





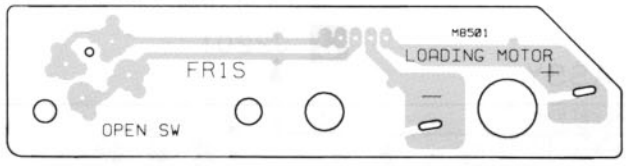
BB

4.4 MOTOR ASSY, SW ASSY AND CD ASSY



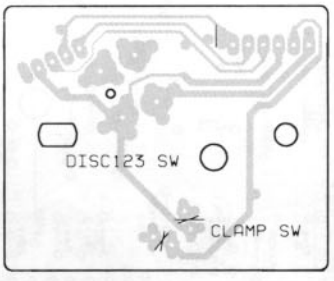
C D E

C MOTOR ASSY

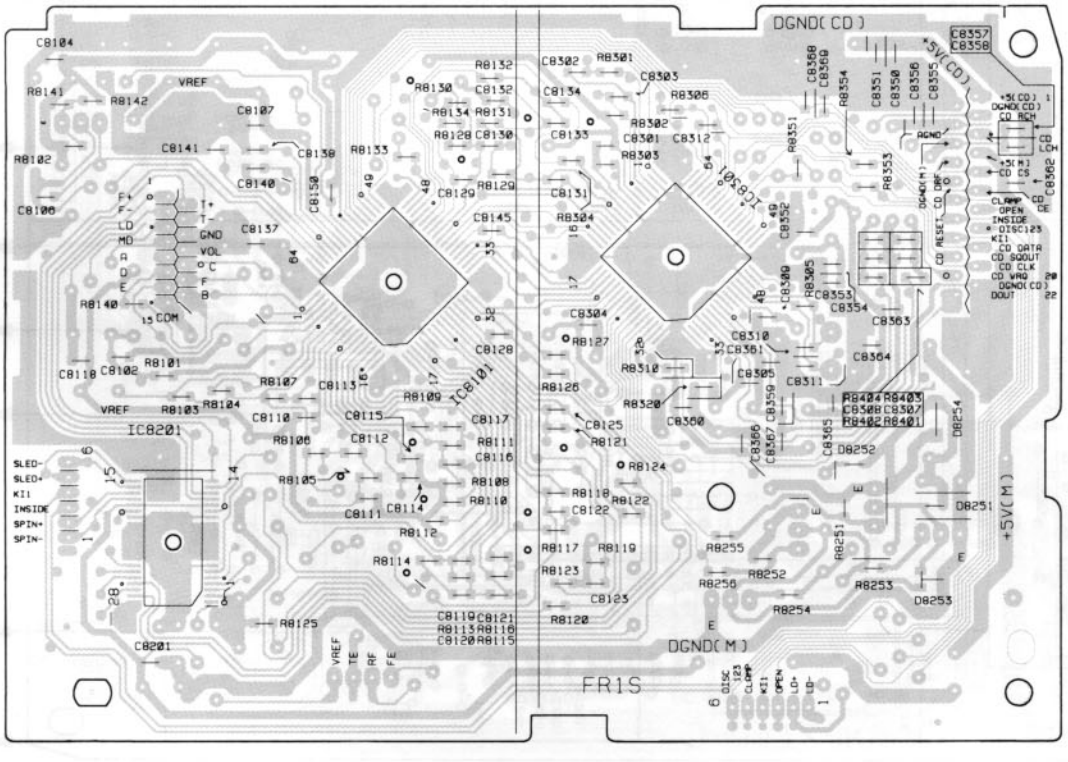


SIDE B

D SW ASSY

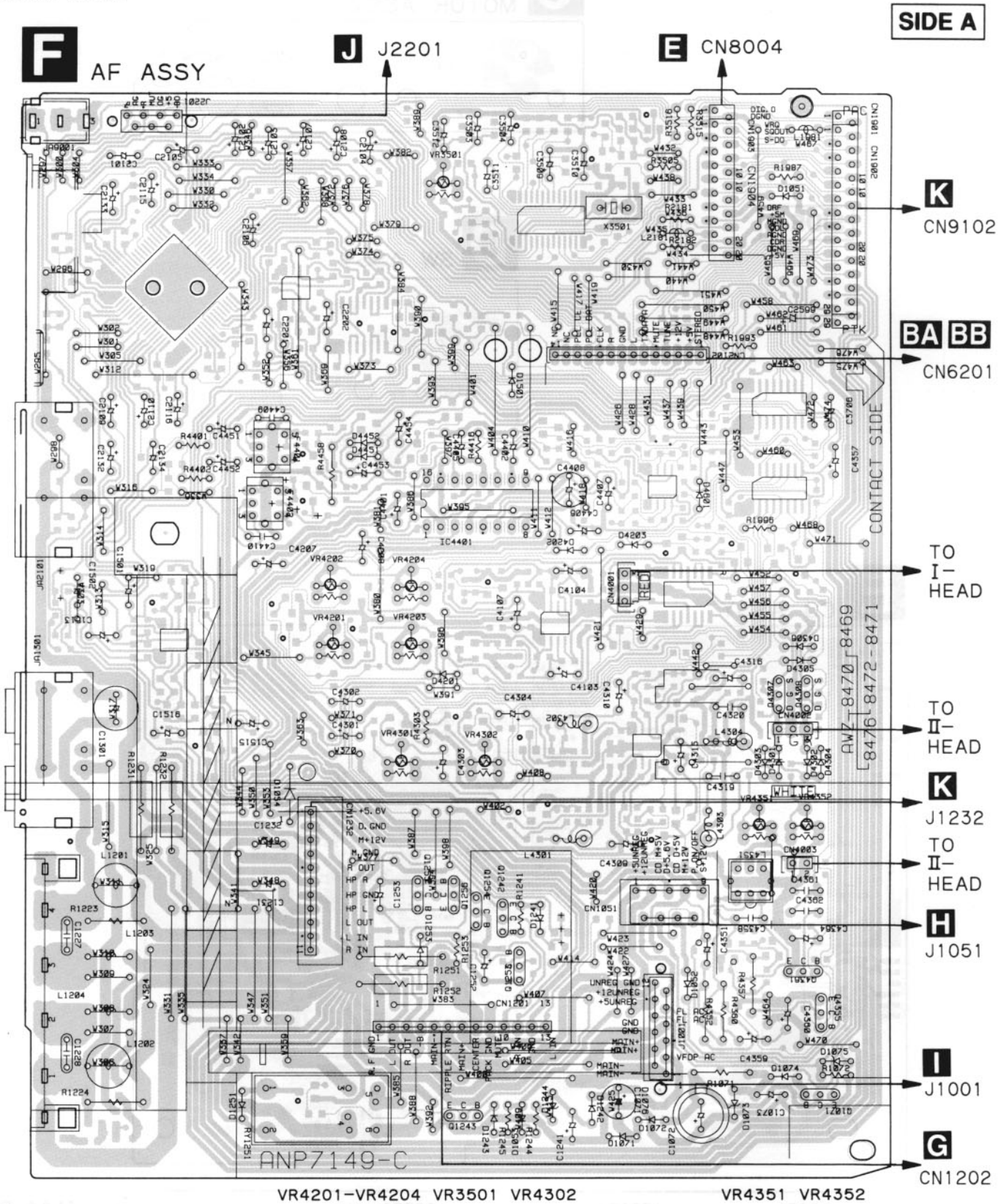


E CD ASSY



IC8201 IC8101 IC8301 ANP7144-B

4.5 AF ASSY



VR4201–VR4204 VR3501 VR4302 VR4351 VR4352
VR4301

Q1255 Q1256 IC4401 Q1253 Q4307 Q4308
Q1243 Q1254 Q4361 Q4355
Q1242 Q1071

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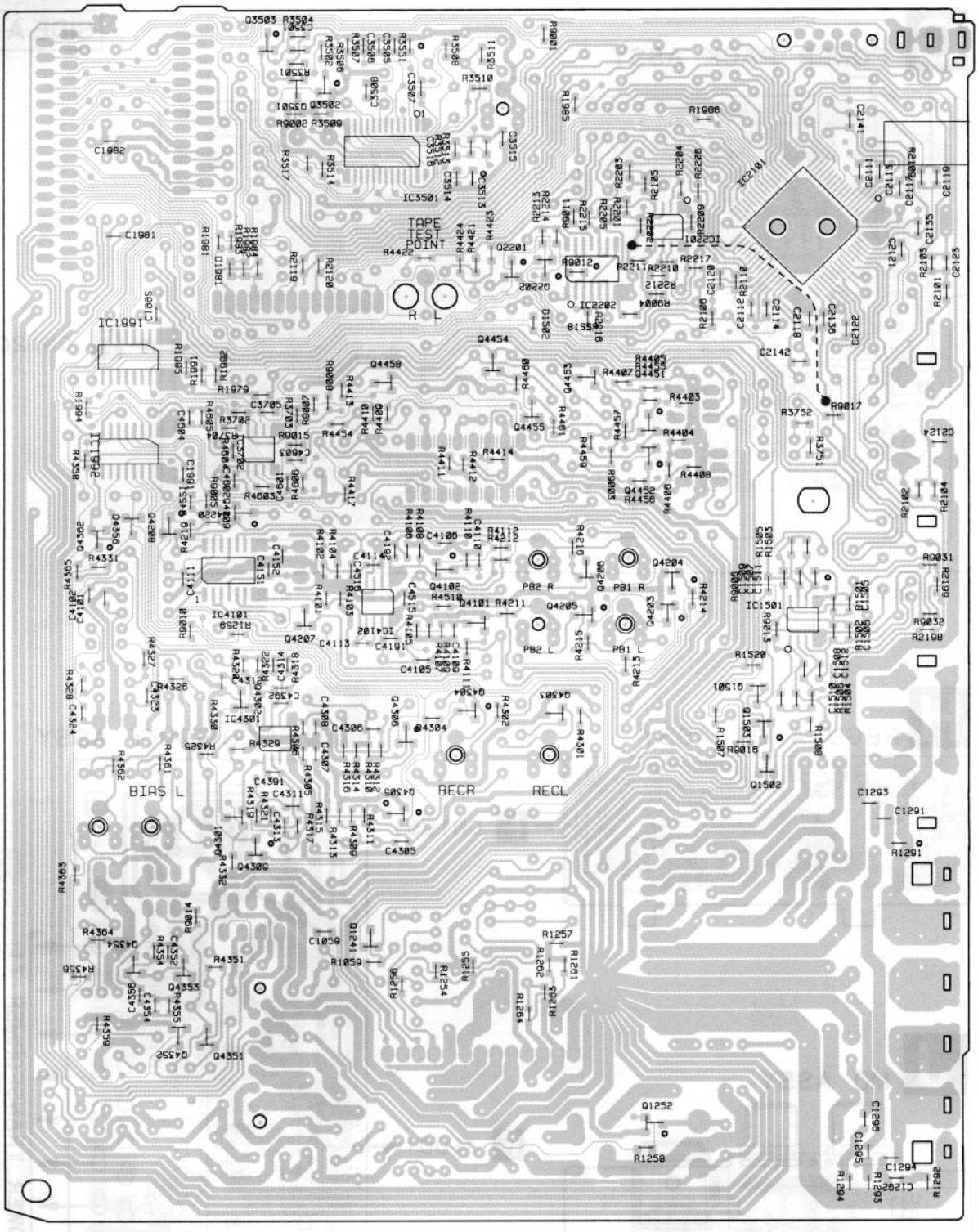
SIDE B

F AF ASSY



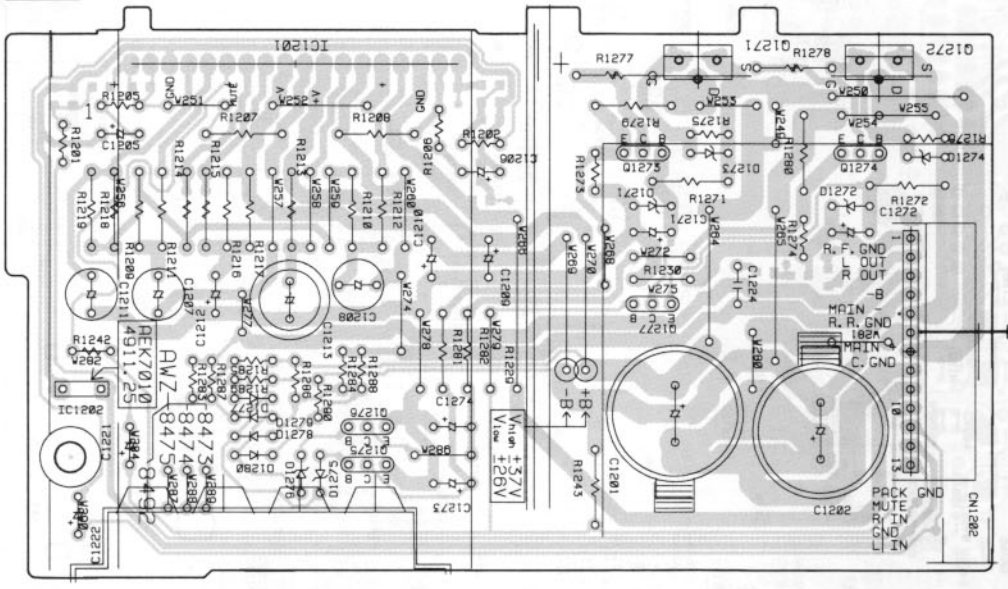
Q4362 IC1991 Q4208 Q3503 Q3501 IC3501 Q4102 Q2201 IC2202 IC2201 IC2101
IC1992 Q4353 IC3702 Q3502 Q4458 Q4101 Q2202 Q4451 IC1501
Q4356 Q4352 Q4209 Q4207 IC4102 Q4304 Q4454 Q4452 Q1501
Q4354 Q4351 IC4101 Q4306 Q4453 Q4206 Q1503
Q4302 Q4305 Q4455 Q4203 Q1502
IC4301 Q4205 Q4204
Q4301 Q4303 Q1252
Q4309

ANP7149-C

4.6 POWER PACK ASSY, REGULATOR ASSY, SECONDARY ASSY AND MD ASSY

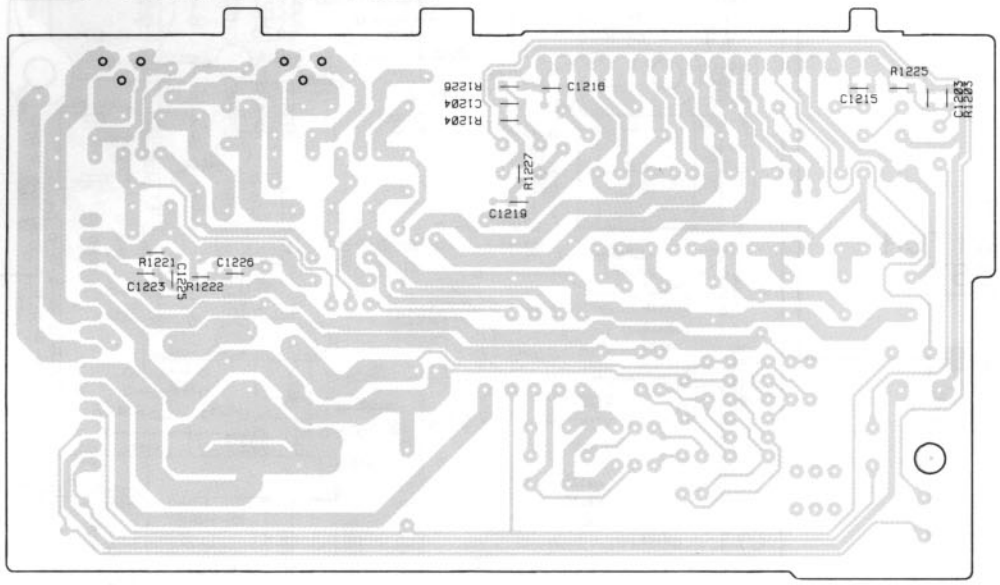
G POWER PACK ASSY

SIDE A

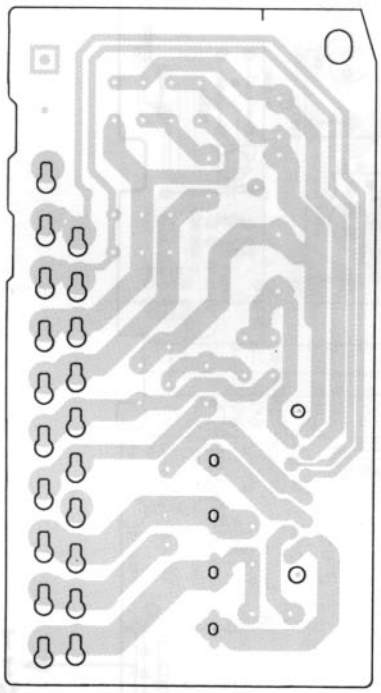


SIDE B

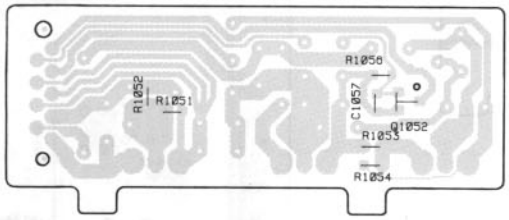
G POWER PACK ASSY



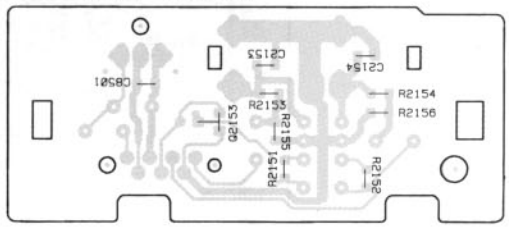
I SECONDARY ASSY



H REGULATOR ASSY

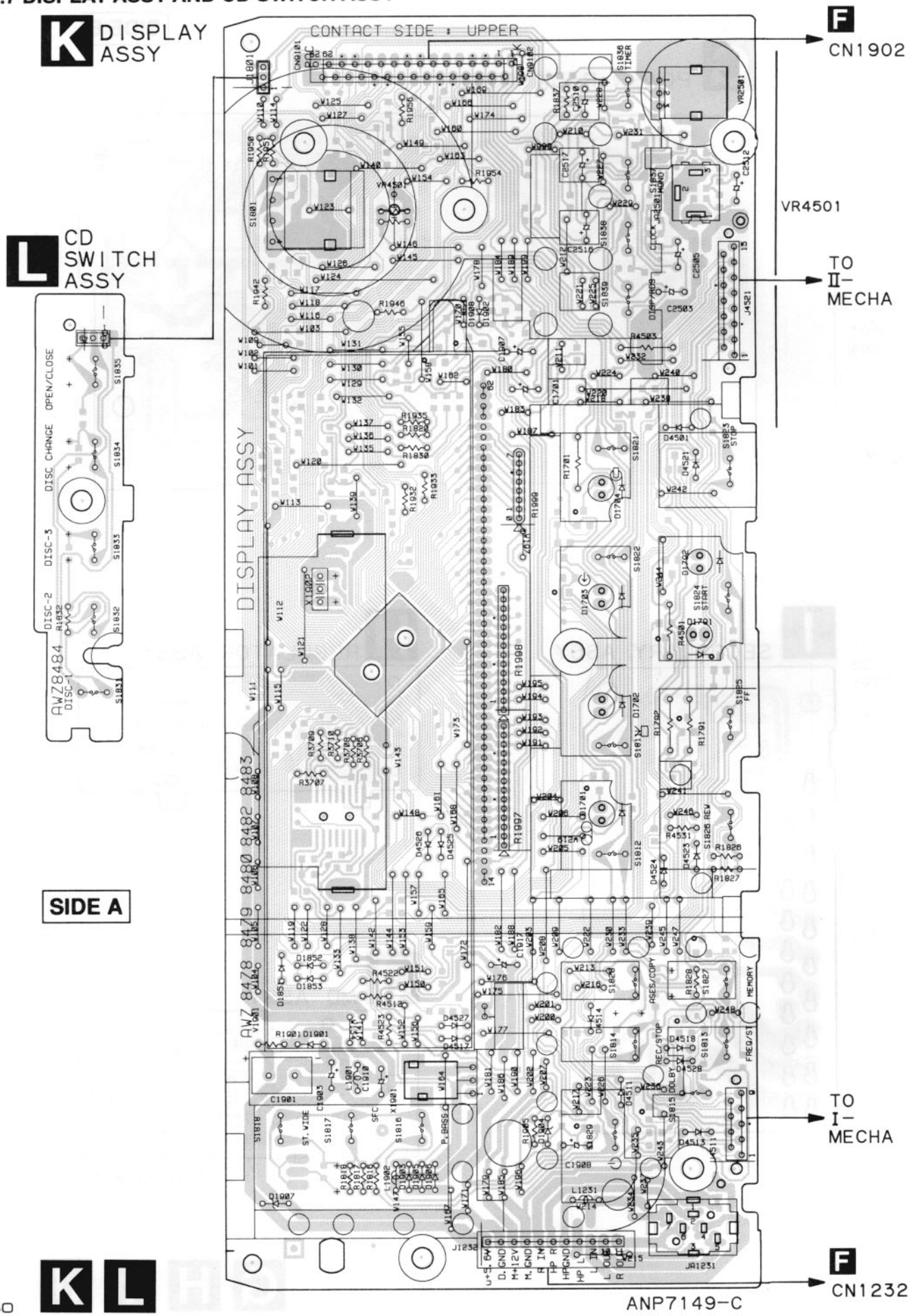


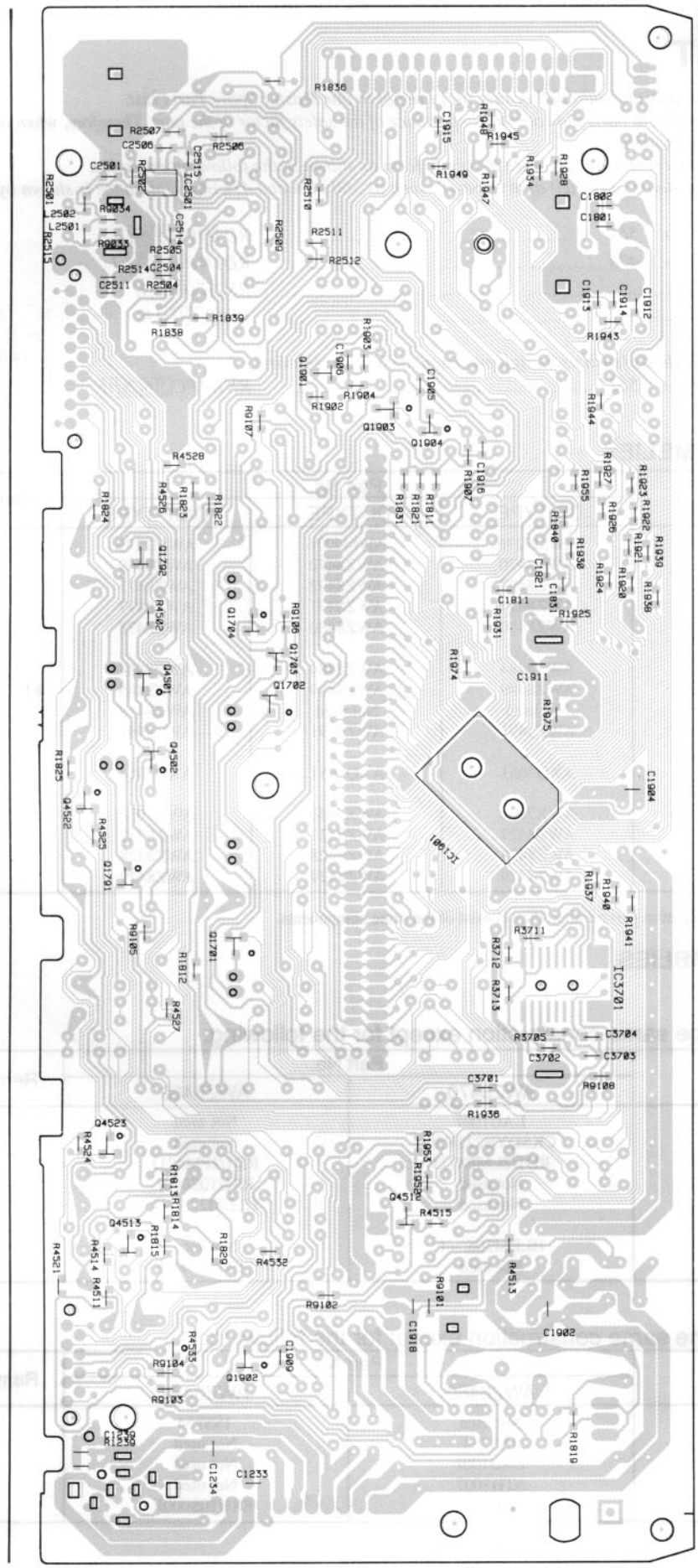
J MD ASSY



ANP7149-C

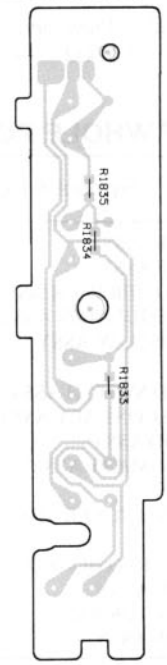
4.7 DISPLAY ASSY AND CD SWITCH ASSY





K DISPLAY ASSY

L CD SWITCH ASSY



SIDE B

ANP7149-C

K L

5. PCB PARTS LIST

NOTES:
- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).

560Ω	→	*56 × 10¹* →	*561*	*RD1/4PU[5][6][1]J*
47kΩ	→	*47 × 10³* →	*473*	*RD1/4PU[4][7][3]J*
0.5Ω	→	*0R5*		*RN2H[0][R][5]K*
1Ω	→	*1R0*		*RS1P[1][R][0]K*

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62kΩ	→	*562 × 10¹* →	*5621*	*RN1/4PC[5][6][2][1]F*

■ LIST OF WHOLE PCB ASSEMBLIES

Mark	Symbol & Description	Part No.			Remarks
		DD TYPE	DL TYPE	D/DF TYPE	
NSP	COMP. ASSY	AWM7276	AWM7276	AWM7275	
	AF ASSY	AWZ8470	AWZ8470	AWZ8469	
	POWER PACK ASSY	AWZ8492	AWZ8492	AWZ8473	
	REGULATOR ASSY	AWZ8477	AWZ8477	AWZ8477	
	DISPLAY ASSY	AWZ8480	AWZ8480	AWZ8478	
	CD SWITCH ASSY	AWZ8484	AWZ8484	AWZ8484	
	SECONDARY ASSY	AWZ8489	AWZ8489	AWZ8485	*1
	MD ASSY	Not used	Not used	AWZ8488	
	PRIMARY ASSY	AWZ8491	AWZ8491	AWZ8491	
	FM/AM TUNER MODULE	AXQ7051	AXQ7051	AXQ7054	
NSP	$M SERVO BOARD ASSY	AWX7030	AWX7030	AWX7033	
	CD ASSY	AWZ8427	AWZ8427	AWZ8742	
	MOTOR ASSY	AWZ8428	AWZ8428	AWZ8428	
NSP	SW ASSY	AWZ8429	AWZ8429	AWZ8429	

*1 : Although AWZ8489 and AWZ8485 are different in part number, they consist of the same components.

■ CONTRAST OF PCB ASSEMBLIES

AF ASSY

AWZ8470 and AWZ8469 have the same construction except for the following:

Mark	Symbol & Description	Part No.		Remarks
		AWZ8470	AWZ8469	
	L2181	LAU100J	Not used	
	C1981, C1982	CKSQYB222K50	Not used	
	R4352	RD1/2LMF471J	RD1/2PM471J	
	R9001	Not used	RS1/10S000J	
	CN1903	Not used	HLEM22S – 1	
	CN1904	HLEM20S – 1	Not used	
	J2201	Not used	51063 – 0705	

DISPLAY ASSY

AWZ8480 and AWZ8478 have the same construction except for the following:

Mark	Symbol & Description	Part No.		Remarks
		AWZ8480	AWZ8478	
	D1851	Not used	1SS254	
	D1852, D1853	1SS254	Not used	
	L1231	LAU100J	Not used	
	L2501, L2502	ATH7007	Not used	
	R9033, R9034	Not used	RS1/10S000J	

POWER PACK ASSY

AWZ8492 and AWZ8473 have the same construction except for the following:

Mark	Symbol & Description	Part No.		Remarks
		AWZ8492	AWZ8473	
	R1229	RD1/4PMF010J	Not used	
	C1209, C1210	Not used	CEAS100M50	

CD ASSY

AWZ8427 and AWZ8742 have the same construction except for the following:

Mark	Symbol & Description	Part No.		Remarks
		AWZ8427	AWZ8742	
	R8305	RS1/10S000J	RS1/10S331J	
	R8310	Not used	RS1/10S102J	
	C8310	CCSQCH150J50	CCSQCH180J50	
	CN8004	HLEM20R – 1	HLEM22R – 1	
	X8301 (16.9344MHz)	DSS1083	PSS1008	

Mark	No.	Description	Parts No.

BB FM/AM TUNER MODULE (AXQ7054 : FOR D/DF TYPE)

SEMICONDUCTORS

	IC6201	LA1832ML
	IC6202	LC72131MD
	Q6102	2SC2223
	Q6203	2SC2705
	Q6201, Q6202	2SC2712
	Q6103, Q6214	2SC2714
	Q6104, Q6105	2SK302
	Q6101	3SK194
	Q6204	DTA124ES
	Q6205	DTC124EK
	D6202	1SS254
	D6101, D6102, D6104	1SV228

COILS AND FILTERS

	L6106	ATC1008
	L6101	ATC1025
	L6102	ATC1026
	L6103	ATC1027
	L6104	ATC1028
	F6204	ATF-107
	F6203	ATF-119
	F6206	ATF7008
	F6202 (455kHz)	ATF7011
	L6107, L6206, L6208	LAU2R2J

TRANSFORMERS

	T6201	ATB7008
	T6101	ATE7002

CAPACITORS

	C6111	CCSQCH010C50
	C6112, C6122, C6127	CCSQCH020C50
	C6118	CCSQCH080D50
	C6208	CCSQCH100D50
	C6113, C6212, C6274, C6275	CCSQCH101J50
	C6116, C6221, C6222	CCSQCH150J50
	C6271	CCSQCH200J50
	C6117	CCSQCH330J50
	C6119	CCSQUJ060D50
	C6101	CCSQUJ150J50
	C6106	CCSQUJ270J50
	C6107	CCSQUJ330J50
	C6234, C6235	CEAL010M50
	C6245	CEAL470M16
	C6231	CEAS010M50
	C6224	CEAS100M50
	C6243	CEAS101M16
	C6227	CEAS220M16
	C6236	CEAS2R2M50
	C6216	CEAS330M16
	C6262	CEAS3R3M50
	C6219	CEAS470M10
	C6244	CEAS470M16
	C6249, C6250, C6265, C6266	CEAS4R7M50
	C6258	CEJA470M16
	C6215	CFTXA103J50
	C6214	CFTXA224J50
	C6105, C6115, C6125, C6126, C6211	CKSQYB102K50
	C6254	CKSQYB102K50
	C6102, C6103, C6114, C6121	CKSQYB103K50
	C6123, C6124, C6201, C6210, C6213	CKSQYB103K50
	C6237, C6267, C6276, C6279-C6281	CKSQYB103K50
	C6251, C6252	CKSQYB123K50
	C6203, C6259	CKSQYB223K50
	C6228	CKSQYB472K50
	C6209	CKSQYB473K50
	C6230	CKSQYB821K50
	C6218, C6223, C6255	CKSQYF103Z50
	C6220, C6226, C6242, C6256	CKSQYF223Z50
	C6225	CKSQYF473Z50

RESISTORS

	R6280	RD1/4PU101J
	R6115, R6119, R6123, R6127, R6906	RS1/8S000J
	R6909, R6911	RS1/8S000J
	R6112	RS1/8S473J
	VR6201 (10kΩ/0.1W)	RCP1045
	Other Resistors	RS1/10S□□□J

Mark	No.	Description	Parts No.
OTHERS			
	BN6202	TERMINAL 4 – P	AKE7028
	X6202	CRYSTAL RESONATOR(456kHz)	ASS1066
	X6201	CRYSTAL RESONATOR(7.2000MHz)	ASS1093
	CN6201	14P SOCKET	KP200IA14L

J MD ASSY(D/DF TYPE ONLY)

SEMICONDUCTORS		
Q2151, Q2152		2SC2458
Q2153		DTA143EK
CAPACITORS		
C2151, C2152		CEJA2R2M50
C8501		CKSQYF104Z50
RESISTORS		
R8502		RD1/4PU152J
	Other Resistors	RS1/10S□□□J
OTHERS		
J2201	CABLE HOLDER(7P)	51063 – 0705
JA8501	OPTICAL LINK OUT	GP1F32T
JA2151	JACK	VKB1050

PARTS LIST FOR XR-P470C/DD

F AF ASSY

SEMICONDUCTORS	
IC2202, IC4101	BU4066BCF
IC1991, IC1992	BU4094BCF
IC4401	CXA1101P
IC2101	LC75394NHE
IC1501, IC2201, IC3702, IC4102, IC4301	XLA4558F – P
Q1242, Q1254	2SA1048
Q4351	2SB1197K
Q1071	2SB1238X
Q4361	2SC2240
Q1252, Q4101, Q4102, Q4203 – Q4206	2SC2412K
Q4451 – Q4454	2SC2412K
Q1243, Q1253, Q1255, Q1256	2SC2458
Q4353, Q4354	2SD1781K
Q4355	2SD2144S
Q4307, Q4308	2SK373
Q4301, Q4302	DTA114EK
Q4208	DTA143EK
Q4305, Q4306	DTC124EK
Q1241, Q2201, Q2202, Q4207, Q4209	DTC143EK
Q4309, Q4352, Q4356, Q4362, Q4455	DTC143EK
Q4458	DTC143EK
D1054, D1074, D1241 – D1243, D1251	1SS254
D1253, D4201 – D4203, D4301 – D4306	1SS254
D4451, D4452, D4601	1SS254
D1981	1SS355
D1073	MTZJ36A
D1075	MTZJ7.5C
D1051, D1052, D1072, D1076	S5688G
COILS AND FILTERS	
L1201, L1202 (1μH)	ATH – 133
L4351 (4.05mH, 105kHz)	ATX7002
L2181	LAU100J
L1981	LAU220J
L4301, L4302	LTA472J
L4303, L4304	LTA822J
F4401, F4402	RTF1209
SWITCHES AND RELAYS	
RY1251	ASR7007
CAPACITORS	
C4362	CCCSL151K500
C4319, C4320	CCCSL271K500
C4323, C4324	CCSQCH100D50
C4601	CCSQCH220J50
C4109, C4110	CCSQCH391J50
C4101, C4102	CCSQCH471J50
C4151, C4152	CCSQCH681J50
C2121, C2122	CCSQSL151J50
C1301	CEANP2R2M50
C2115, C2116	CEAS0R1M50
C1252, C4364, C4405, C4407, C4454	CEAS100M50
C1513, C2133, C2134, C2599, C4401	CEAS101M16
C1072	CEAS101M63
C1073, C4453	CEAS220M35
C1253, C4408	CEAS221M10
C2299	CEAS2R2M50
C2132, C4103, C4104, C4309, C4310	CEAS330M16
C4357	CEAS3R3M50
C2202, C4107, C4351	CEAS470M16
C2109, C2110	CEASR33M50
C4402, C4406	CEASR68M50
C1241, C1501, C1502, C1515, C1516	CEJA2R2M50
C4207, C4208, C4301 – C4304	CEJA2R2M50
C4315, C4316, C4451, C4452	CEJA2R2M50
C4359, C4360	CEJA470M16
C2101 – C2108	CEJAR33M50
C2201	CEJAR47M50
C1992, C2113, C2114	CKSQYB102K50
C1509, C1510, C4602, C4603	CKSQYB104K25
C2117, C2118	CKSQYB154K16
C4313, C4314	CKSQYB182K50
C3705	CKSQYB221K50
C1981, C1982	CKSQYB222K50
C1507, C1508	CKSQYB223K50
C4307, C4308	CKSQYB273K50
C2119, C4352, C4354	CKSQYB332K50
C1991, C4305, C4306	CKSQYB333K50
C2120, C2135, C2136, C4356	CKSQYB472K50
C2111, C2112, C4105, C4106	CKSQYB682K50
C4311, C4312, C4604	CKSQYB823K25
C4409, C4410	CQMA103J50
C4358	CQMA223J50
C4361	CQPA822J100
RESISTORS	
R4352	RD1/2LMF471J
R1071	RD1/2PMF272J
R4458	RD1/4PM102J
R1223, R1224	RD1/4PMFL100J
R4360	RD1/4PMFL470J
R4357	RD1/4PMFL4R7J
R1241, R1987, R1993, R4401, R4402	RD1/4PU102J
R4416	RD1/4PU102J
R1072, R1996, R2299	RD1/4PU103J
R2298	RD1/4PU104J

Mark	No.	Description	Parts No.
	R1253		RD1/4PU152J
	R2181, R2182		RD1/4PU271J
	R1244		RD1/4PU392J
	R1245		RD1/4PU562J
	R1231, R1232		RS2LMF331J
	R1251, R1252		RS2LMFR22J
	VR4301, VR4302	(4.7kΩ/0.1W)	PCP1028
	VR4201 – VR4204	(22kΩ/0.1W)	PCP1030
	VR4351, VR4352	(22kΩ/0.1W)	PCP1033
		Other Resistors	RS1/10S□□□J

OTHERS

	J1001	CABLE HOLDER(12P)	51063 – 1205
	CN1203	SPEAKER TERMINAL 4 – P	AKE7035
	CN4003	2P TOP POST	B2B – EH
	CN4002	3P TOP POST(RED)	B3B – EH
	CN4001	3P TOP POST(RED)	B3B – EH – R
	CN1904	CONNECTOR 20P	HLEM20S – 1
	CN1902	CONNECTOR	HLEM29S – 1
	CN2102	14P PLUG	KM200IB14
	CN1201	13P SOCKET	KP250NA13
	CN1051	CONNECTOR(9P)	KPE9
	JA9001	JACK	RKN1004
		PCB BINDER	VEF1008
	JA1301, JA2101	JACK	VKB1050

G POWER PACK ASSY

SEMICONDUCTORS

	IC1201		STK4152 – 2GP
⚠	IC1202	PROTECTOR(1.25A/125V)	AEK7010
	Q1274, Q1276		2SA1048
	Q1273, Q1275		2SC2458
	Q1271		IRFI9Z34G
	Q1272		IRFIZ24G
	D1277 – D1280		1SS254
	D1275, D1276		MTZJ16B
	D1273, D1274		MTZJ18B
	D1271, D1272		MTZJ5.6C

CAPACITORS

	C1201, C1202	(3300pF/50V)	ACH7056
	C1207, C1208		CEANP470M25
	C1213		CEANP470M50
	C1212, C1271, C1272		CEAS100M50
	C1205, C1206		CEAS220M35
	C1273, C1274		CEAS470M16
	C1224		CGCYF104Z50
	C1203, C1204		CKSQYB222K50
	C1223, C1225, C1226		CKSQYF104Z50

RESISTORS

	R1201, R1202, R1242, R1273, R1274		RD1/4PU102J
	R1283, R1284, R1287, R1288		RD1/4PU102J
	R1285, R1286, R1289, R1290		RD1/4PU103J
	R1205, R1206		RD1/4PU561J
	R1275, R1276		RD1/4PU563J
⚠	R1277, R1278		RFA1/4PS101J
	R1221, R1222		RS1/10S100J
	R1225, R1226		RS1/10S102J
	R1203, R1204		RS1/10S563J
	R1215		RS1/2LMF102J
	R1229		RD1/4PMF010J
		Other Resistors	RD1/4PM□□□J

OTHERS

	CN1202	13P PLUG	KM250NA13L

H REGULATOR ASSY

SEMICONDUCTORS

	IC1051		NJM7805FA
	IC1052		NJM7812FA
	Q1052		2SA1182
	Q1051		2SD2012
	D1059, D1060		MTZJ15C
	D1058		MTZJ6.8C

CAPACITORS

	C1054 – C1056		CEJA100M16
	C1051 – C1053		CQMA473J50

RESISTORS

	R1055		RD1/4PU102J
		Other Resistors	RS1/10S□□□J

OTHERS

	J1051	CABLE HOLDER(9P)	51063 – 0905

K DISPLAY ASSY

SEMICONDUCTORS

	IC3701		BA3835F
	IC1901		PDC036A
	IC2501		XLA4558F – P
	Q4501		2SB1197K
	Q1901		2SC2412K
	Q4512, Q4522		2SD1781K
	Q1903, Q4513, Q4523		DTA124EK
	Q1904		DTC124EK
	Q1701 – Q1704, Q1791, Q1792, Q1902		DTC143EK
	Q4502		DTC143EK
	D1852, D1853, D1901 – D1903		1SS254
	D1905, D1906, D1908, D4501, D4511		1SS254
	D4513, D4514, D4517, D4518, D4521		1SS254
	D4523 – D4528		1SS254
	D1701 – D1704, D1791, D1792		MPG5064X
	D1904, D1907		MTZJ6.8C

COILS AND FILTERS

	L2501, L2502		ATH7007
	L1231		LAU100J
	L1901		LAU220J

SWITCHES AND RELAYS

	S1811 – S1818, S1821 – S1829		ASG1034
	S1836 – S1839		ASG1034
	S1801		ASX7007

CAPACITORS

	C1901	(0.047F/5.5V)	ACH1246
	C1908, C2503, C2505, C2510, C2512		CEJA100M16
	C2516		CEJA100M16
	C1701, C1910		CEJA220M35
	C1903, C1917, C2517		CEJA470M16

Mark	No.	Description	Parts No.
	C1907		CEJAR47M50
	C1905		CKSQYB102K50
	C3701 – C3704		CKSQYB104K25
	C2501		CKSQYB122K50
	C2504		CKSQYB221K50
	C1801, C1802, C1912, C1915		CKSQYB222K50
	C2506		CKSQYB682K50
	C1811, C1821, C1831, C1902, C1904		CKSQYF473Z50
	C1906, C1909, C1916		CKSQYF473Z50
	RESISTORS		
	R1997, R1998		RA13T473J
	R1999		RA7T473J
	R4501		RD1/4PM102J
	R4503		RD1/4PM222J
	R1701, R1791, R1792		RD1/4PM561J
	R1901		RD1/4PU101J
	R1820, R1830, R1932, R1933, R3706		RD1/4PU102J
	R3708 – R3710, R4512, R4522		RD1/4PU102J
	R1954, R3707		RD1/4PU103J
	R1950, R1951, R4531		RD1/4PU223J
	R1816, R1826		RD1/4PU271J
	R1817, R1827, R1837		RD1/4PU331J
	R1942		RD1/4PU471J
	R1905, R1935, R1946, R1956, R4523		RD1/4PU473J
	R1818, R1828		RD1/4PU561J
	VR4501	(4.7kΩ/0.1W)	PCP1028
	VR2501	(10kΩ – B)	VCS1021
		Other Resistors	RS1/10S□□□J
	OTHERS		
	J4511	CABLE HOLDER(9P)	51063 – 0905
	J4521	CABLE HOLDER(15P)	51063 – 1505
	CN9102	CONNECTOR	9607S – 29F
	V1901	FL TUBE	AAV7032
	JA2501	JACK	AKN7004
	JA1231	MINITURE JACK	AKN7005
		REMOTE RECEIVER UNIT	GP1U28X
	X1902	CERAMIC RESONATOR (6.00MHz)	RSS1050
		FL HOLDER	VNF1087

L CD SWITCH ASSY

Mark	No.	Description	Parts No.
	SWITCHES AND RELAYS		
	S1831 – S1835		ASG1034
	RESISTORS		
	R1832		RD1/4PU101J
		Other Resistors	RS1/10S□□□J

I SECONDARY ASSY

Mark	No.	Description	Parts No.
	SEMICONDUCTORS		
⚠	IC1006	PRTECTOR(1.25A/125V)	AEK7010
⚠	IC1001, IC1002	PRTECTOR(3A/125V)	AEK7015
	D1201		D3SBA20(B)
	D1001 – D1008		S5688G
	CAPACITORS		
	C1002		CEAS222M25
	C1001		CEAS222M35
	C1009		CQMA333K250
	OTHERS		
	J1001	CABLE HOLDER(12P)	51063 – 1205

A PRIMARY ASSY

Mark	No.	Description	Parts No.
	SWITCHES AND RELAYS		
⚠	S1101	(5A/AC250V)	AKX7006
	CAPACITORS		
⚠	C1101	(10000pF/250V)	ACG7020
	OTHERS		
	H1101 – H1104	FUSE HOLDER	VKR1001

BA FM/AM TUNER MODULE

No.	Description	Parts No.
SEMICONDUCTORS		
IC6201		LA1832ML
IC6202		LC72131MD
Q6402		2SC2223
Q6203		2SC2705
Q6201, Q6202		2SC2712
Q6214, Q6403		2SC2714
Q6404		2SK302
Q6401		3SK194
Q6204		DTA124ES
Q6205		DTC124EK
D6202		1SS254
D6401, D6402		1T363
COILS AND FILTERS		
L6404		ATC1003
L6401		ATC1020
L6402		ATC1021
F6204		ATF – 107
F6203		ATF – 119
F6401		ATF – 155
F6206		ATF7008
F6202	(455kHz)	ATF7011
L6206, L6208, L6403		LAU2R2J
TRANSFORMERS		
T6201		ATB7008
T6401		ATE7002
CAPACITORS		
C6407		CCSQCH010C50
C6410		CCSQCH020C50
C6401, C6419		CCSQCH050C50
C6208		CCSQCH100D50
C6212, C6274, C6275, C6408		CCSQCH101J50
C6221, C6222, C6416		CCSQCH150J50
C6271		CCSQCH200J50
C6415		CCSQCH330J50
C6414		CCSQPH080D50
C6413		CCSQPH220J50
C6405		CCSQTH180J50
C6234, C6235		CEAL010M50
C6245		CEAL470M16
C6231		CEAS010M50
C6224		CEAS100M50

Mark	No.	Description	Parts No.
	C6243		CEAS101M16
	C6227		CEAS220M16
	C6236		CEAS2R2M50
	C6216		CEAS330M16
	C6262		CEAS3R3M50
	C6219		CEAS470M10
	C6244		CEAS470M16
	C6249, C6250, C6265, C6266		CEAS4R7M50
	C6258		CEJA470M16
	C6215		CFTXA103J50
	C6214		CFTXA224J50
	C6211, C6254, C6403, C6406, C6412		CKSQYB102K50
	C6201, C6205, C6210, C6213, C6237		CKSQYB103K50
	C6276, C6278, C6280, C6281, C6402		CKSQYB103K50
	C6409, C6417, C6418		CKSQYB103K50
	C6251, C6252		CKSQYB153K50
	C6203, C6259		CKSQYB223K50
	C6228		CKSQYB472K50
	C6209		CKSQYB473K50
	C6230		CKSQYB821K50
	C6218, C6223, C6255		CKSQYF103Z50
	C6220, C6226, C6242, C6256		CKSQYF223Z50
	C6225		CKSQYF473Z50
RESISTORS			
	R6280		RD1/4PU101J
	R6413, R6416, R6418, R6906, R6909		RS1/8S000J
	R6401		RS1/8S470J
	VR6201	(10KΩ/0.1W)	RCP1045
		Other Resistors	RS1/10S□□□J
OTHERS			
	BN6202	TERMINAL 4 – P	AKE7028
	X6202	CRYSTAL RESONATOR (456kHz)	ASS1066
	X6201	CRYSTAL RESONATOR (7.2000MHz)	ASS1093
	CN6201	14P SOCKET	KP200IA14L

E CD ASSY

SEMICONDUCTORS

IC8201		BA5923FP
IC8101		LA9240ML
IC8301		LC78622ED
Q8101		2SA1048
Q8251, Q8252		2SA1560
Q8253, Q8254		2SC4040
D8253		1SS181
D8251, D8252		1SS355

COILS AND FILTERS

L8351, L8352		LFA010K
L8201		LFA470J

CAPACITORS

C8129		CCSQCH010C50
C8145, C8352, C8354, C8356, C8358		CCSQCH101J50
C8361, C8362		CCSQCH101J50
C8132, C8310, C8311		CCSQCH150J50
C8131		CCSQCH300J50

Mark	No.	Description	Parts No.
	C8127		CEAL010M50
	C8142		CEAL101M6R3
	C8126, C8139		CEAL470M16
	C8135		CEAL4R7M16
	C8124		CEALR47M50
	C8136		CEAS100M50
	C8108, C8306		CEAS101M10
	C8202		CEAS101M25
	C8101		CEAS3R3M50
	C8105		CEAS470M16
	C8109		CEASR22M50
	C8106, C8119, C8133, C8360		CKSQYB102K50
	C8102, C8122, C8123, C8130		CKSQYB103K50
	C8137, C8138, C8201, C8309, C8312		CKSQYB103K50
	C8134, C8302, C8303		CKSQYB104K25
	C8353, C8359		CKSQYB152K50
	C8111		CKSQYB153K25
	C8114, C8117, C8120, C8121		CKSQYB154K16
	C8125		CKSQYB221K50
	C8107		CKSQYB223K50
	C8110		CKSQYB331K50
	C8115, C8128		CKSQYB332K50
	C8113		CKSQYB333K25
	C8112, C8141		CKSQYB334K16
	C8355, C8357		CKSQYB471K50
	C8116, C8140		CKSQYB473K50
	C8118, C8301, C8304, C8305		CKSQYF104Z25
RESISTORS			
		All Resistors	RS1/10S□□□J
OTHERS			
	CN8003	6P JUMPER CONNECTOR	52151 – 0610
	CN8002	KR CONNECTOR	B6B – PH – K – S
	CN8005	3PIN SIDE POST	BS3P – SHF – 1AA
	X8301	CERAMIC RESONATOR (16.9344MHz)	DSS1083
	CN8004	CONNECTOR	HLEM20R – 1
	CN8001	CONNECTOR	SLW15S – 1C7

C MOTOR ASSY

SWITCHES AND RELAYS

S8503	ASG7009

OTHERS

MOTOR PULLEY	PNW1634
SLIDER MOTOR	VXM1033

D SW ASSY

SWITCHES AND RELAYS

S8502	ASG7009
S8501	DSG1017

6. ADJUSTMENT

6.1 TUNER SECTION

■ FM Tuner Section

- Set the mode selector to FM BAND.
- Connect the wiring as shown in Fig. 1–1.

- For DD and DL types (AXQ7051)

Step No.	Adjustment Title	FM SG (1kHz, ±75kHz dev.)		Reception Frequency Display	Adjustment Location	Specifications
		Frequency (MHz)	Level (dBμV)			
1	Front End Sensitivity	98	0-30	98MHz	L6402 T6401	Adjust so that the DC voltage between the IC6201-Pin 20 becomes at maximum level.
2	TUNED IND. Lighting Level	98	18±2	98MHz	VR6201	Adjust so that the indicator of TUNED IND. starts to light up.

- For D/DF type (AXQ7054)

Step No.	Adjustment Title	FM SG (1kHz, ±75kHz dev.)		Reception Frequency Display	Adjustment Location	Specifications
		Frequency (MHz)	Level (dBμV)			
1	Front End Sensitivity	83	0-30	83MHz	L6104 L6102 T6101	Adjust so that the DC voltage between the IC6201-Pin 20 becomes at maximum level.
2	TUNED IND. Lighting Level	83	18±2	83MHz	VR6201	Adjust so that the indicator of TUNED IND. starts to light up.

Notes:

- *Before adjusting, make sure there is no gap between L6101 and L6102 as well as between L6103 and L6104. If there is a gap between them, bring them into contact with each other first, and then make adjustments.*

■ AM Tuner Section

- Set the mode selector to AM BAND.
- Connect the wiring as shown in Fig. 1–1.

Step No.	Adjustment Title	AM SG (400Hz, 30% Mod.)		Reception Frequency Display	Adjustment Location	Specifications
		Frequency (kHz)	Level (dBμV/m)			
1	Front End Sensitivity	999*1	35-45	999kHz*1	T6201	Adjust so that the DC voltage between the IC6201-Pin 20 becomes at maximum level.

*1: For the area using 10kHz step, frequencies should be 1000kHz

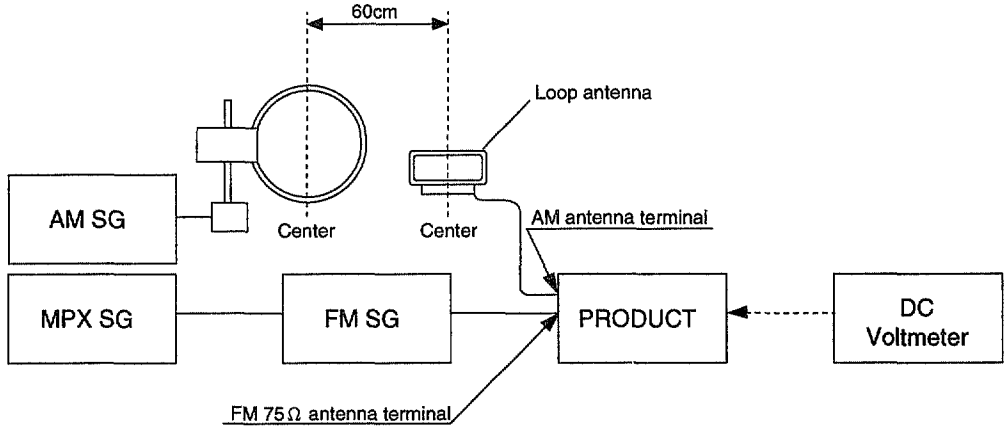
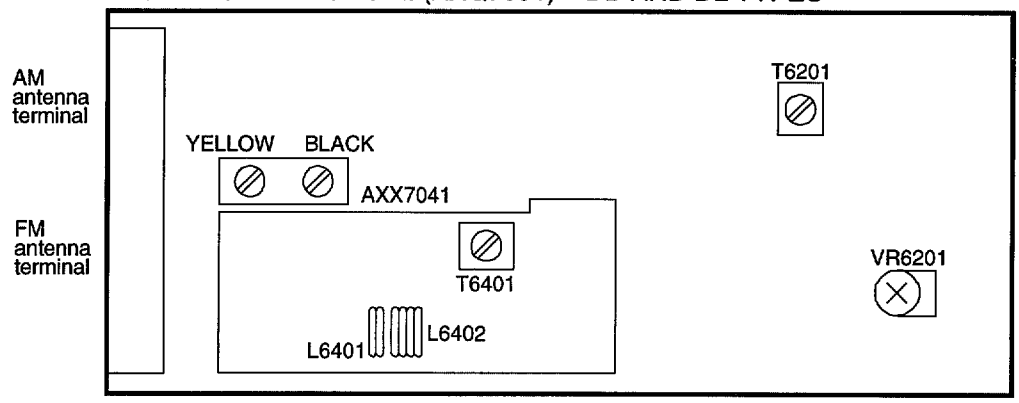


Fig. 1–1 AM and FM Adjustment Wiring Diagram

FM/AM TUNER MODULE (AXQ7051) – DD AND DL TYPES



FM/AM TUNER MODULE (AXQ7054) – D/DF TYPE

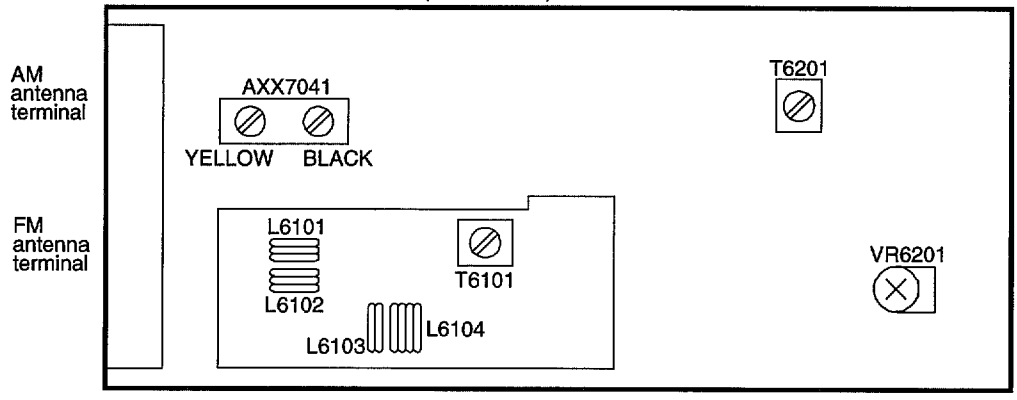
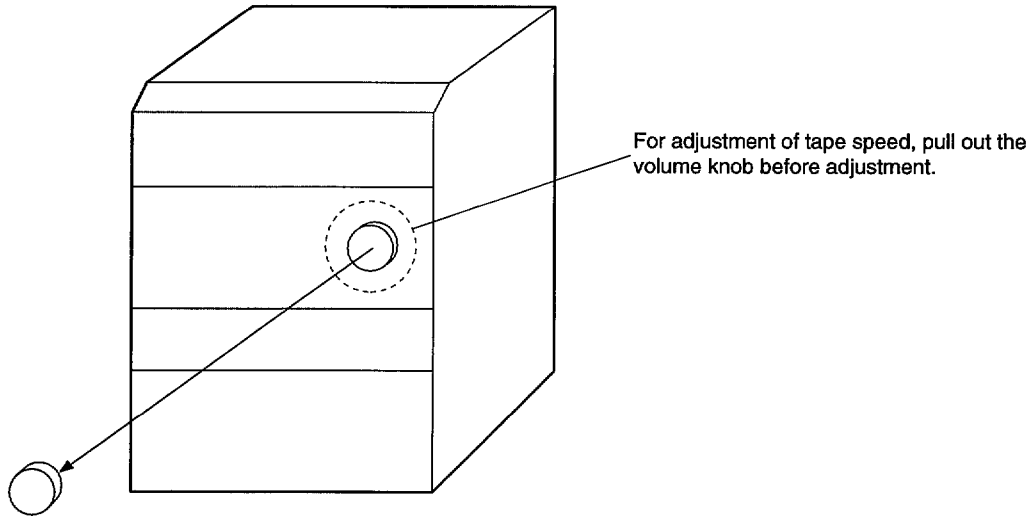


Fig. 1–2 Adjustment Points

6.2 CASSETTE DECK SECTION

• Adjustment points and test points are shown in Fig. 2-2 and Fig. 2-4.



■ Mechanical Adjustment

- Test tape: STD-301 (3kHz, 30min).
- Remove the Volume knob.

(1) Tape Speed Adjustment

No.	Mode	Test Tape	Adjusting Points	Measurement Points	Adjustment Procedure	Remarks
1	Deck I PLAY	STD-301 (Playback: 3kHz)	DISPLAY ASSY VR4501	TAPE TEST POINT (Rch) (AF Assy)	Press the PLAY SW and adjust so that the reading becomes 3000Hz ±20Hz. Confirm that wow & flutter level is below 0.2% (in the reverse direction, confirm that the reading is within 3000Hz ±60Hz).	

■ Electrical Adjustment

Check the following before starting.

(1) Confirm that the tape speed adjustment has been completed.
(2) Clean the heads and demagnetize them using a head eraser.
(3) Set the measurement level to 0 dBV = 1 Vrms.
(4) Use the specified tape for adjustment. Use the labeled (A) side of the test tape.
STD-331E: For playback adjustment
STD-631or STD-632: Normal blank tape
(5) Provide yourself with the following measuring devides:
- AC millivoltmeter
- Low-frequency oscillator
- Attenuator
- Oscilloscope

(6) Adjust both right and left channels unless otherwise specified.
(7) Turn the DOLBY NR switch off unless otherwize specified.
(8) Warm up the unit for several minutes before adjustment. In particular, be sure to warm up the unit in the REC/PLAY mode for 3 to 5 minutes before starting recording/playback frequency characteristics adjustment.
(9) Always follow the indicated adjustment order.

Otherwise, a complete adjustment may not be achieved.

Playback Adjustment (Decks I and II)

(1) Head Azimuth Adjustment
(2) Playback Level Adjustment

Recording Adjustment (Deck II)

(1) Bias Oscillation Frequency Adjustment
(2) Recording Bias Adjustment
(3) Recording Level Adjustment.
(4) ALC Operation Check

* *As the reference recording level is 250nwb / m for STD-331E, the recording level will be higher by 4 dB for STD-331B (160nwb / m). When adjusting, pay carefull attention to the type of tape used.*

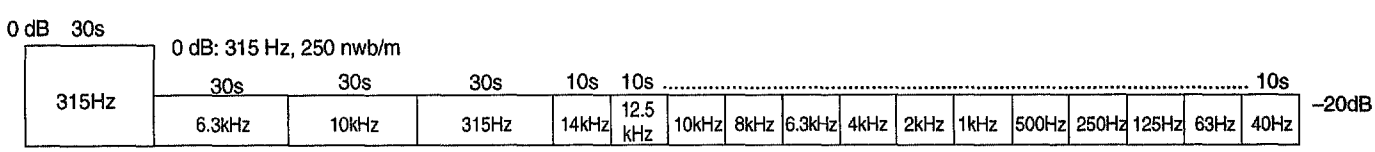


Fig. 2–1 STD-331E Test Tape

Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"DOLBY" and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.

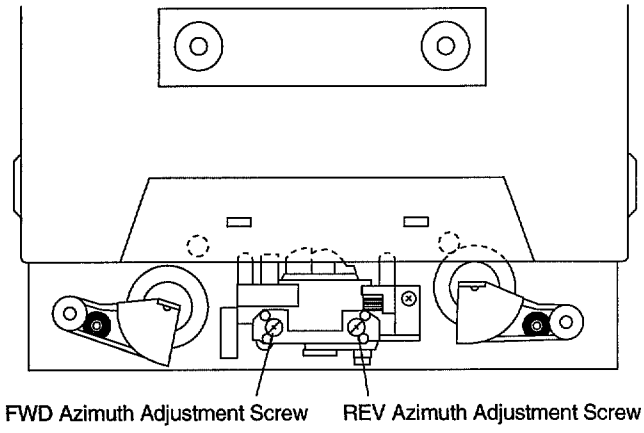


Fig. 2–2 Head Azimuth Adjustment

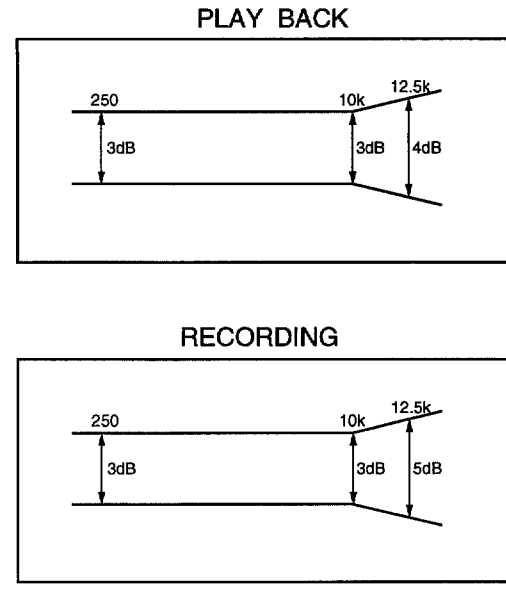


Fig. 2–3 Frequency Characteristics

■ Playback Adjustment

(1) Head Azimuth Adjustment

● Do not switch between forward and reverse operation with the screwdriver inserted.

Step	Mode	Input Signal/ Test Tape	Adjusting Points		Measurement Points	Adjustment Value	Remarks
1	PLAY	STD-331E test tape (Playback: 10kHz, –20dB)	Deck I	Head azimuth adjustment screw (Fig. 2-2)	TAPE TEST POINT (L, Rch) (AF Assy)	Max. playback signal level	After adjustment, apply silicon bond to the head azimuth adjustment screw.
			Deck II				

(2) Playback Level Adjustment

● Since this adjustment determines playback Dolby NR level, perform it carefully.

Step	Mode	Input Signal/ Test Tape	Adjusting Points		Measurement Points	Adjustment Value	Remarks
1	PLAY	STD-331E test tape (Playback: 315Hz, 0dB)	Deck I	VR4201 (Lch) VR4202 (Rch)	TAPE TEST POINT (L, Rch) (AF Assy)	– 4.2 dBV	
			Deck II	VR4203 (Lch) VR4204 (Rch)			

■ Recording Adjustment

(1) Bias Oscillation Frequency Adjustment

Step	Mode	Input Signal/ Test Tape	Adjusting Points		Measurement Points	Adjustment Value	Remarks
1	REC	Load the STD–631 or STD–632 test tape and set the recording mode.	Deck I	————	————	Oscillation frequency to be 105.0kHz ±2kHz.	When the power is turned ON while the MONO button is depressed, the frequency will decrease 2 – 3 kHz.
			DeckII	L4351	Between Ⓐ point in Fig. 2-4 and GND.		

(2) Recording Bias Adjustment ● Since this adjustment affects recording bias, prevent distortion from increasing due to underbias.

Step	Mode	Input Signal/Test Tape	Adjusting Points		Measurement Points	Adjustment Value	Remarks
1	REC	Input a 315Hz signal to the AUX terminal and set the input selector to AUX.	Deck I	——	TAPE TEST POINT (L, Rch) (AF Assy)	– 24.2 dBV	
			Deck II	Input signal level			
2	REC→ PLAY	Load the STD-631 or STD-632 test tape and record/playback the 315Hz and 10kHz signals. (see the Note below)	Deck I	——	TAPE TEST POINT (L, Rch) (AF Assy)	Repeat adjustment until playback level of the 10kHz signal is within 0±0.5dB from that of the 315Hz signal.	
			Deck II	VR4351 (Lch) VR4352 (Rch)			

Note: Set the 10kHz input signal level to the same value as the 315Hz input signal level of step 1.

(3) Recording Level Adjustment

Step	Mode	Input Signal/Test Tape	Adjusting Points		Measurement Points	Adjustment Value	Remarks
1	REC	Input a 315Hz signal to the AUX terminal and set the input selector to AUX.	Deck I	Input signal level	TAPE TEST POINT (L, Rch) (AF Assy)	– 8.2 dBV	
			Deck II				
2	REC → PLAY	STD-631 or STD-632 test tape and record/playback the 315Hz signal.	Deck I	——	TAPE TEST POINT (L, Rch) (AF Assy)	Repeat recording, playback and adjustment until playback level of the 315Hz signal becomes -8.2dBV.	
			Deck II	VR4301 (Lch) VR4302 (Rch)			

(4) ALC Operation Check

Step	Mode	Input Signal/Test Tape	Adjusting Points	Measurement Points	Adjustment Value	Remarks
1	REC/ PAUSE	Input a 315Hz signal to the AUX terminal and set the input selector to AUX.	Input signal level	TAPE TEST POINT (L, Rch) (AF Assy)	– 8.2 dBV	
2			Set to a level +10 dB above the input level at step 1.		Confirm that the reading is –3.2±2.5dBV.	

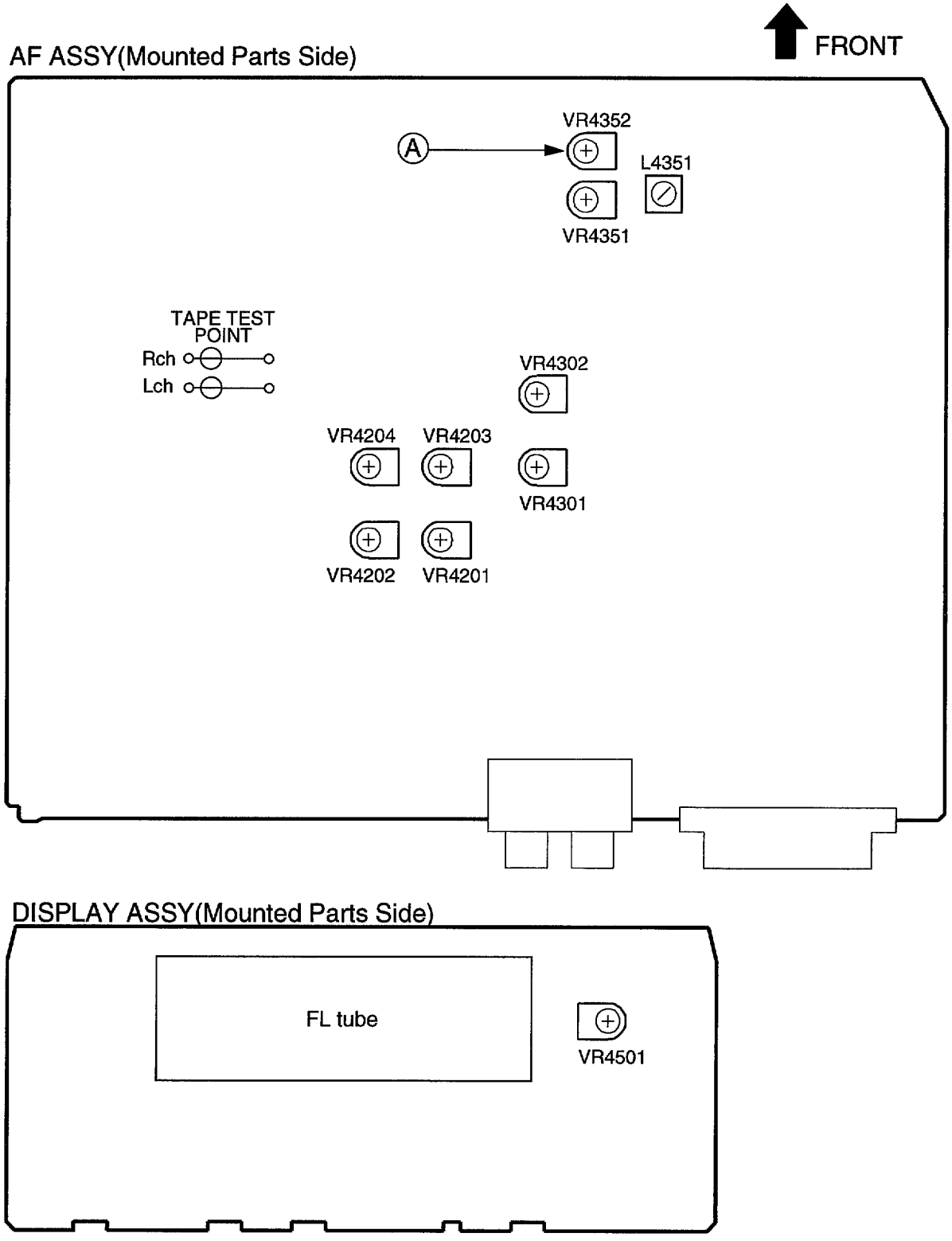
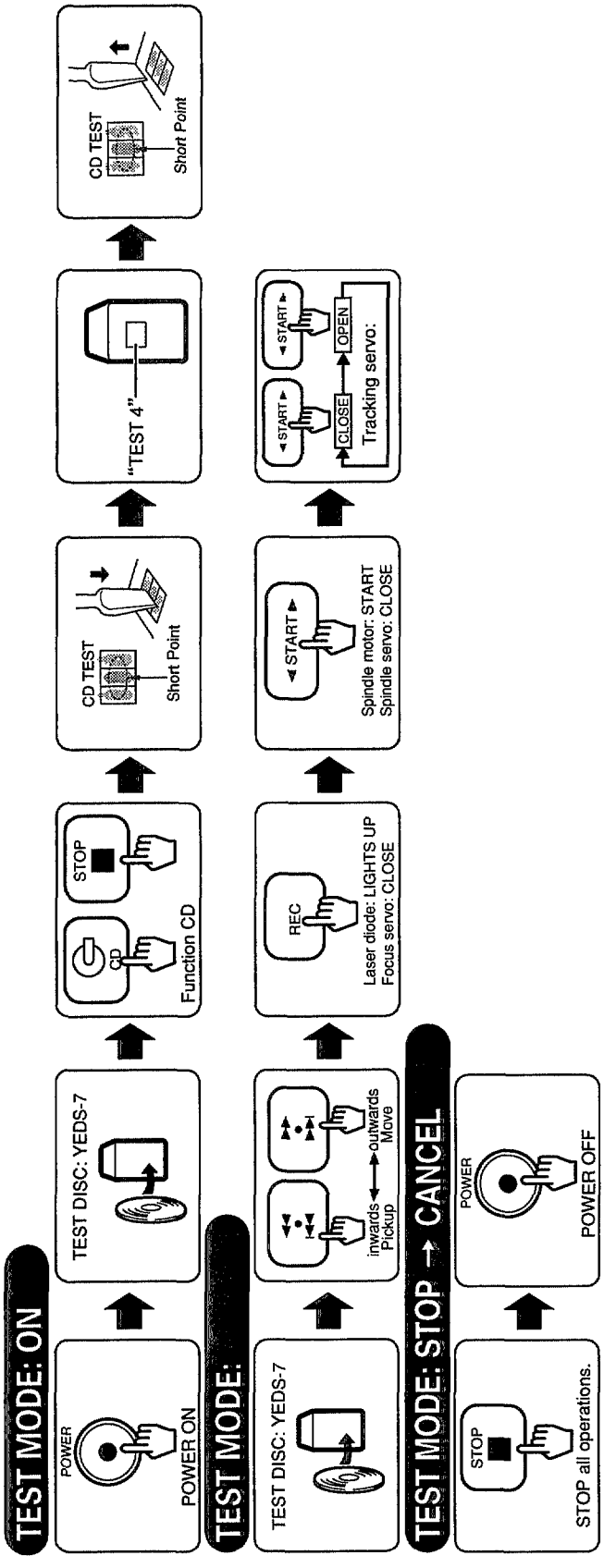


Fig. 2-4 Adjustment and Measurement points

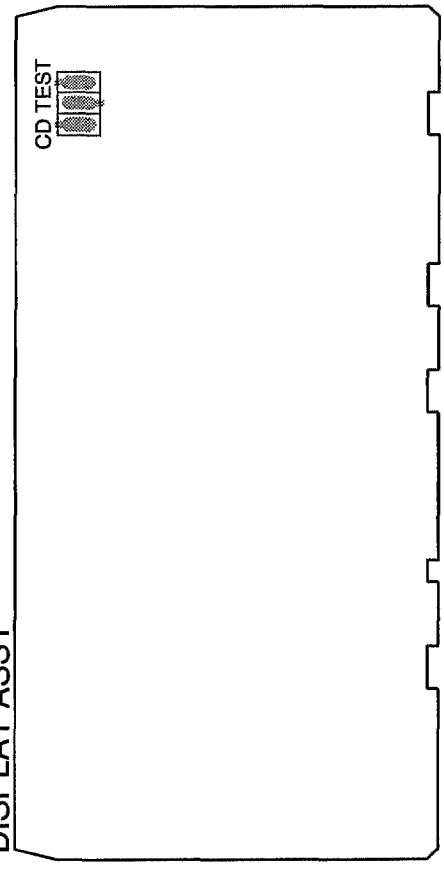
6.3 TEST MODE

■ How to Start/Cancel Test Mode （テストモードの設定/解除）



NOTE: There is no information to be shown in this CD adjustment.

■ Test Point （テストポイントの位置）



7. GENERAL INFORMATION

7.1 PARTS

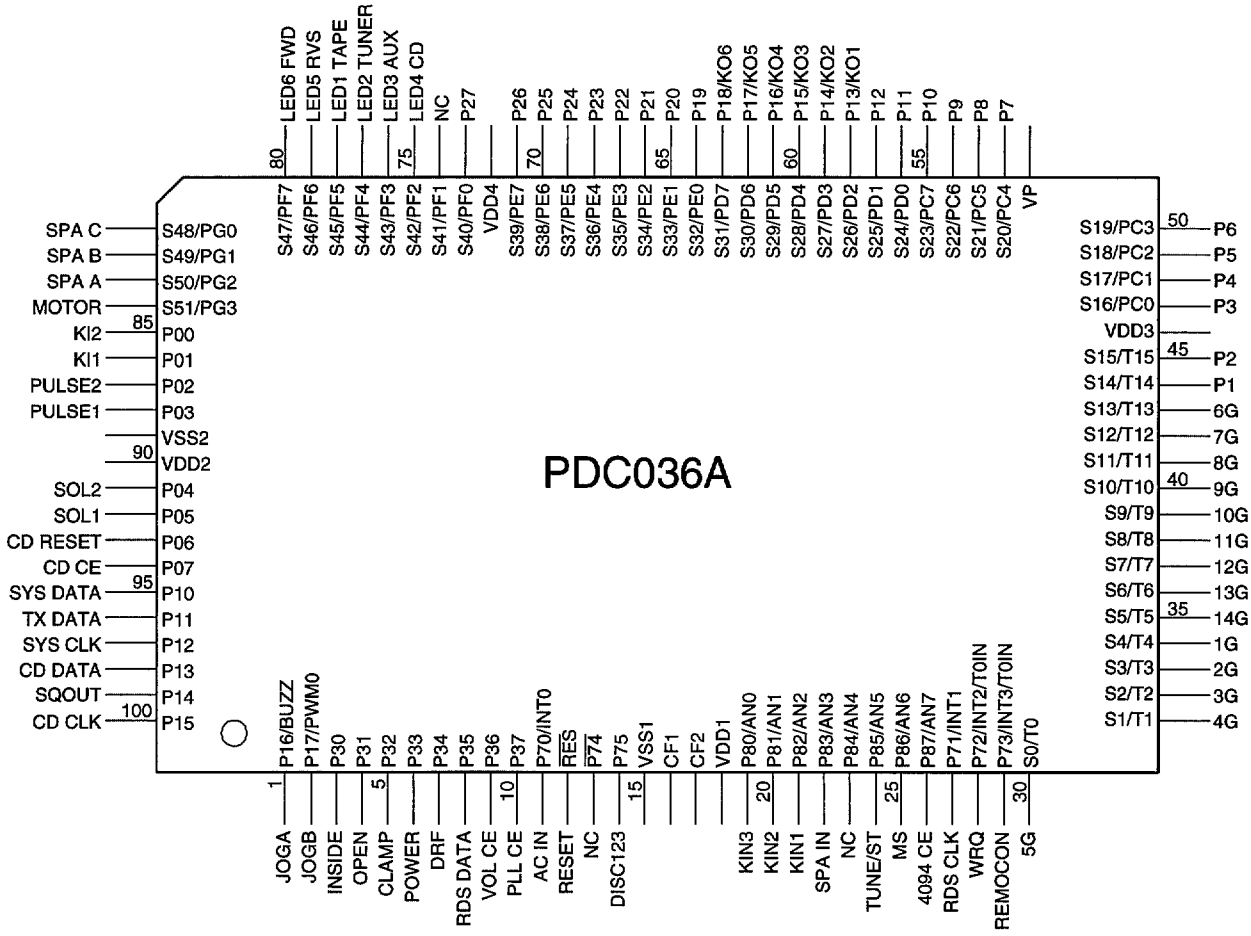
7.1.1 IC

■ PDC036A (IC1901 : DISPLAY ASSY)

● SYSTEM MICROCOMPUTER

● Pin Assignment

- The information shown in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.



● Pin Function

No.	Name	Function Name	I/O	I/O	Function	OPTION	ACT
1	P16	JOGA	I/O	I	ROTARY PULSE ENCODER	-	-
2	P17	JOGB	I/O	I	ROTARY PULSE ENCODER	-	-
3	P30	INSIDE	I/O	I	CD INSIDE	-	H
4	P31	OPEN	I/O	I	CD OPEN	-	-
5	P32	CLAMP	I/O	I	CD CLAMP	-	H
6	P33	POWER	I/O	C	POWER ON/OFF	-	H
7	P34	DRF	I/O	I	CD FOCUS	-	H
8	P35	RDS DATA	I/O	I	RDS DATA	-	-
9	P36	VOL CE	I/O	C	LC75394 CE	-	-
10	P37	PLL CE	I/O	C	LC72131 CE	-	-
11	INIT0	AC IN	I/O	I	AC PULSE INPUT	-	D.E
12	RES	RESET	I	I	RESET PIN	-	L
13	P74	NOT USED	I/O	O	NC	-	-
14	P75	DISC123	I/O	I	CD DISC CLAMP	-	-
15	VSS1	VSS1	-	-	GND	-	-

PDC036A

No.	Name	Function Name	I/O	I/O	Function	OPTION	ACT
16	CF1	CF1	-	I	CONNECTION of 6.00MHz OSCILLATOR	-	-
17	CF2	CF2	-	O	CONNECTION of 6.00MHz OSCILLATOR	-	-
18	VDD1	VDD1	-	-	+5V	-	-
19	AN0	KEY IN 3	I	A/D	KEY A/D INPUT	-	-
20	AN1	KEY IN 2	I	A/D	KEY A/D INPUT	-	-
21	AN2	KEY IN 1	I	A/D	KEY A/D INPUT	-	-
22	AN3	SPA IN	I	A/D	SPECTRUM ANALYZER INPUT	-	-
23	AN4	NOT USED	I/O	O	NOT USED	-	-
24	AN5	TUNE/ST	I/O	A/D	TUNED/STEREO	-	L
25	AN6	MS	I/O	A/D	MS("L" for INTERVALS BETWEEN SONGS)	-	L
26	AN7	4094CE	I/O	O	TC4094 CE	-	-
27	INIT1	RDS CLK	I/O	I	RDS CLK	-	D.E
28	INIT2	WRQ	I/O	I	CD WRQ	-	D.E
29	INIT3	REMOCON	I/O	I	REMOCON	-	D.E
30	T0	5G	O	P	5G FL GRID	P.D(H)	H
31	T1	4G	O	P	4G FL GRID	P.D(H)	H
32	T2	3G	O	P	3G FL GRID	P.D(H)	H
33	T3	2G	O	P	2G FL GRID	P.D(H)	H
34	T4	1G	O	P	1G FL GRID	P.D(H)	H
35	T5	14G	O	P	14G FL GRID	P.D(H)	H
36	T6	13G	O	P	13G FL GRID	P.D(H)	H
37	T7	12G	O	P	12G FL GRID	P.D(H)	H
38	T8	11G	O	P	11G FL GRID	P.D(H)	H
39	T9	10G	O	P	10G FL GRID	P.D(H)	H
40	T10	9G	O	P	9G FL GRID	P.D(H)	H
41	T11	8G	O	P	8G FL GRID	P.D(H)	H
42	T12	7G	O	P	7G FL GRID	P.D(H)	H
43	T13	6G	O	P	6G FL GRID	P.D(H)	H
44	S14	P1	O	P	P1 FL SEGMENT	P.D(H)	H
45	S15	P2	O	P	P2 FL SEGMENT	P.D(H)	H
46	VDD3	VDD3	-	-	+5V	-	-
47	S16	P3	I/O	P	P3 FL SEGMENT	P.D(H)	H
48	S17	P4	I/O	P	P4 FL SEGMENT	P.D(H)	H
49	S18	P5	I/O	P	P5 FL SEGMENT	P.D(H)	H
50	S19	P6	I/O	P	P6 FL SEGMENT	P.D(H)	H
51	VP	VP	-	-	NEGATIVE ELECTRICITY FOR FL	-	-
52	S20	P7	I/O	P	P7 FL SEGMENT	P.D(H)	H
53	S21	P8	I/O	P	P8 FL SEGMENT	P.D(H)	H
54	S22	P9	I/O	P	P9 FL SEGMENT	P.D(H)	H
55	S23	P10	I/O	P	P10 FL SEGMENT	P.D(H)	H
56	S24	P11	I/O	P	P11 FL SEGMENT	P.D(H)	H
57	S25	P12	I/O	C	P12 FL SEGMENT	P.D(H)	H
58	S26	P13/KO1	I/O	C	P13/KEY OUT 1	P.D(H)	H
59	S27	P14/KO2	I/O	P	P14/KEY OUT 2	P.D(H)	H
60	S28	P15/KO3	I/O	P	P15/KEY OUT 3	P.D(H)	H
61	S29	P16/KO4	I/O	P	P16/KEY OUT 4	P.D(H)	H
62	S30	P17/KO5	I/O	P	P17/KEY OUT 5	P.D(H)	H
63	S31	P18/KO6	I/O	P	P18/KEY OUT 6	P.D(H)	H
64	S32	P19	I/O	P	P19 FL SEGMENT	P.D(H)	H
65	S33	P20	I/O	P	P20 FL SEGMENT	P.D(H)	H

PDC036A

No.	Name	Function Name	I/O	I/O	Function	OPTION	ACT
66	S34	P21	I/O	P	P21 FL SEGMENT	P.D(H)	H
67	S35	P22	I/O	P	P22 FL SEGMENT	P.D(H)	H
68	S36	P23	I/O	P	P23 FL SEGMENT	P.D(H)	H
69	S37	P24	I/O	P	P24 FL SEGMENT	P.D(H)	H
70	S38	P25	I/O	P	P25 FL SEGMENT	P.D(H)	H
71	S39	P26	I/O	P	P26 FL SEGMENT	P.D(H)	H
72	VDD4	VDD4	-	-	+5V	-	-
73	S40	P27	I/O	P	P27 FL SEGMENT	P.D(H)	H
74	PF1	LED 4	I/O	P	LED (CD)	NO USE	H
75	PF2	LED 3	I/O	P	LED (AUX)	NO USE	H
76	PF3	LED 2	I/O	P	LED (TUNER)	NO USE	H
77	PF4	LED 1	I/O	P	LED (TAPE)	NO USE	H
78	PF5	LED 5	I/O	P	LED (RVS)	NO USE	H
79	PF6	LED 6	I/O	P	LED (FWD)	NO USE	H
80	PF7	NOT USED	I/O	O	NC	NO USE	-
81	PG0	SPA A	I/O	P	SPECTRUM ANALYZER BA3835 A	NO USE	-
82	PG1	SPA B	I/O	P	SPECTRUM ANALYZER BA3835 B	NO USE	-
83	PG2	SPA C	I/O	P	SPECTRUM ANALYZER BA3835 C	NO USE	-
84	PG3	MOTOR	I/O	P	DECK MOTOR	NO USE	H
85	P00	KEY IN2	I/O	I	KEY SCAN IN	NO USE	-
86	P01	KEY IN1	I/O	I	KEY SCAN IN	NO USE	-
87	P02	PULSE2	I/O	I	DECK2 PULSE	NO USE	-
88	P03	PULSE1	I/O	I	DECK1 PULSE	NO USE	-
89	VSS2	VSS2	-	-	GND	-	-
90	VDD2	VDD2	-	-	+5V	-	-
91	P04	SOL2	I/O	C	DECK2 SOLENOID	NO USE	H
92	P05	SOL1	I/O	C	DECK1 SOLENOID	NO USE	H
93	P06	CD RESET	I/O	C	CD RESET	NO USE	L
94	P07	CD CE	I/O	C	CD CE	NO USE	-
95	P10	SYS DATA	I/O	C	PLL, TC4094, LC75394	-	-
96	P11	TX DATA	I/O	C	PLL DATA IN	-	-
97	P12	SYS CLK	I/O	C	PLL, TC4094, LC75394	-	-
98	P13	CD DATA	I/O	C	CD DATA	-	-
99	P14	SQOUT	I/O	C	CD SQOUT	-	-
100	P15	CD CLK	I/O	C	CD CLOCK	-	-

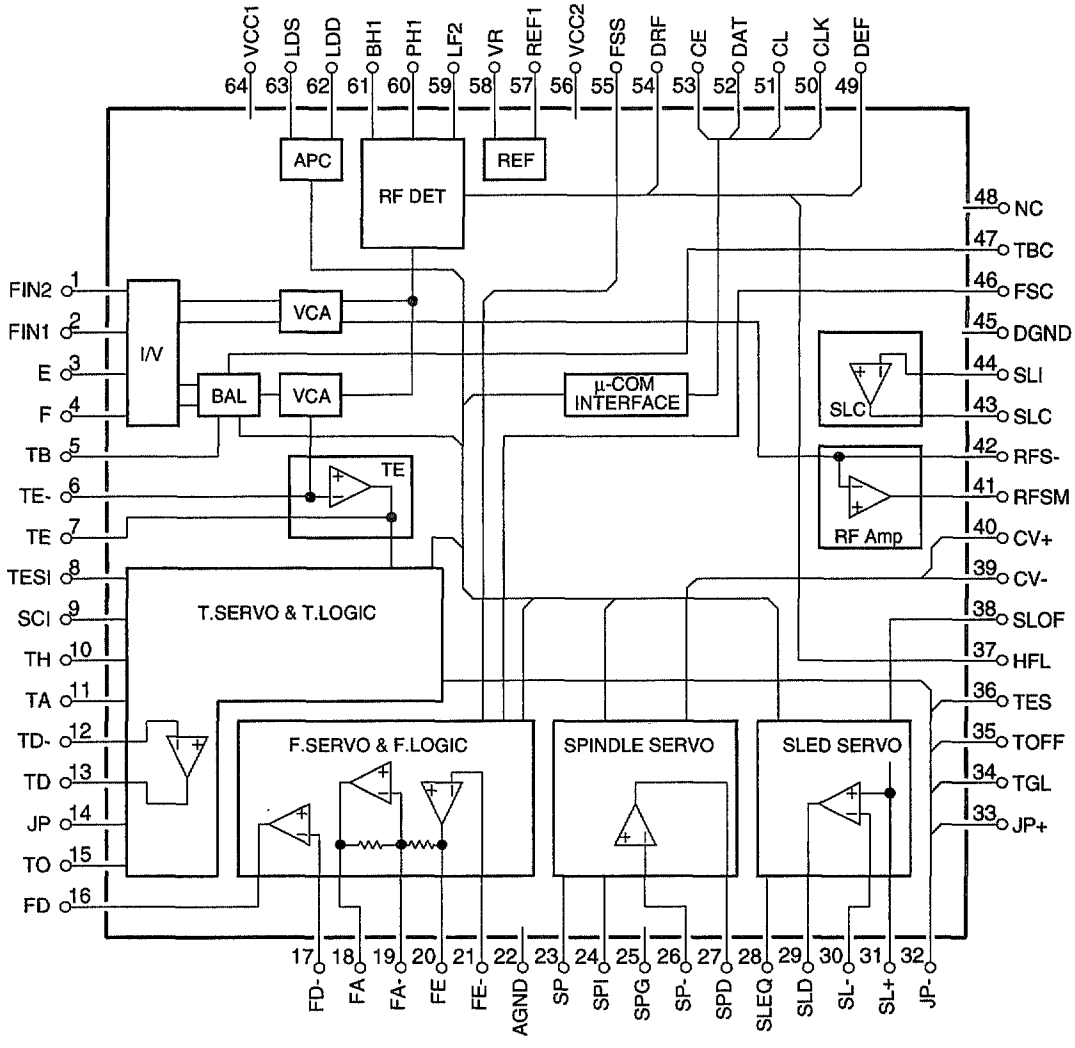
I/O ..... INPUT/OUTPUT
I ..... INPUT
O ..... OUTPUT
C ..... CMOS OUTPUT
N ..... Nch OPEN DRAIN OUTPUT
P ..... Pch OPEN DRAIN OUTPUT
A/D ..... A/D CONVERSION INPUT
P.U(H) ..... PULL-UP by OPTIONAL MASK
P.D(H) ..... PULL-DOWN by OPTIONAL MASK
P.U(S) ..... PULL-UP by SOFTWARE
U.E ..... LEADING EDJE
D.E ..... TRAILING EDJE
EG ..... EDJE
Z ..... HI-IMPEDANCE

Note that the use optional mask is not taken into consideration for resetting status (RST).

■ LA9240ML (IC8101 : CD ASSY)

● SERVO SIGNAL PROCESSOR IC FOR CD PLAYER

● Block Diagram



● Pin Function

No.	Name	I/O	Function
1	FIN2	I	Pin for connection of the photodiode of the pickup. Generates RF signal by addition with the FIN1 pin, and FE signal by subtraction.
2	FIN1	I	Pin for connection of the photodiode of the pickup.
3	E	I	Pin for connection of the photodiode of the pickup. Generates TE signal by subtraction with the F pin.
4	F	I	Pin for connection of the photodiode of the pickup.
5	TB	I	Pin for DC component input of TE signal.
6	TE-	I	Pin to connect resistance for gain setting of TE signal between the TE pin.
7	TE	O	TE signal output pin.
8	TESI	I	TES (Track Error Sense) comparator input pin. Passes and inputs TE signal through the band-pass filter.
9	SCI	I	Input pin for shock detection.
10	TH	I	Pin for setting tracking gain time constant.
11	TA	O	TA amplifier output pin.
12	TD-	I	Pin to form the tracking phase compensation constant between the TD and VR pins.
13	TD	O	Pin for setting tracking phase compensation.
14	JP	I	Pin for setting tracking jump signal (kick pulse) amplitude.
15	TO	O	Tracking control signal output pin.

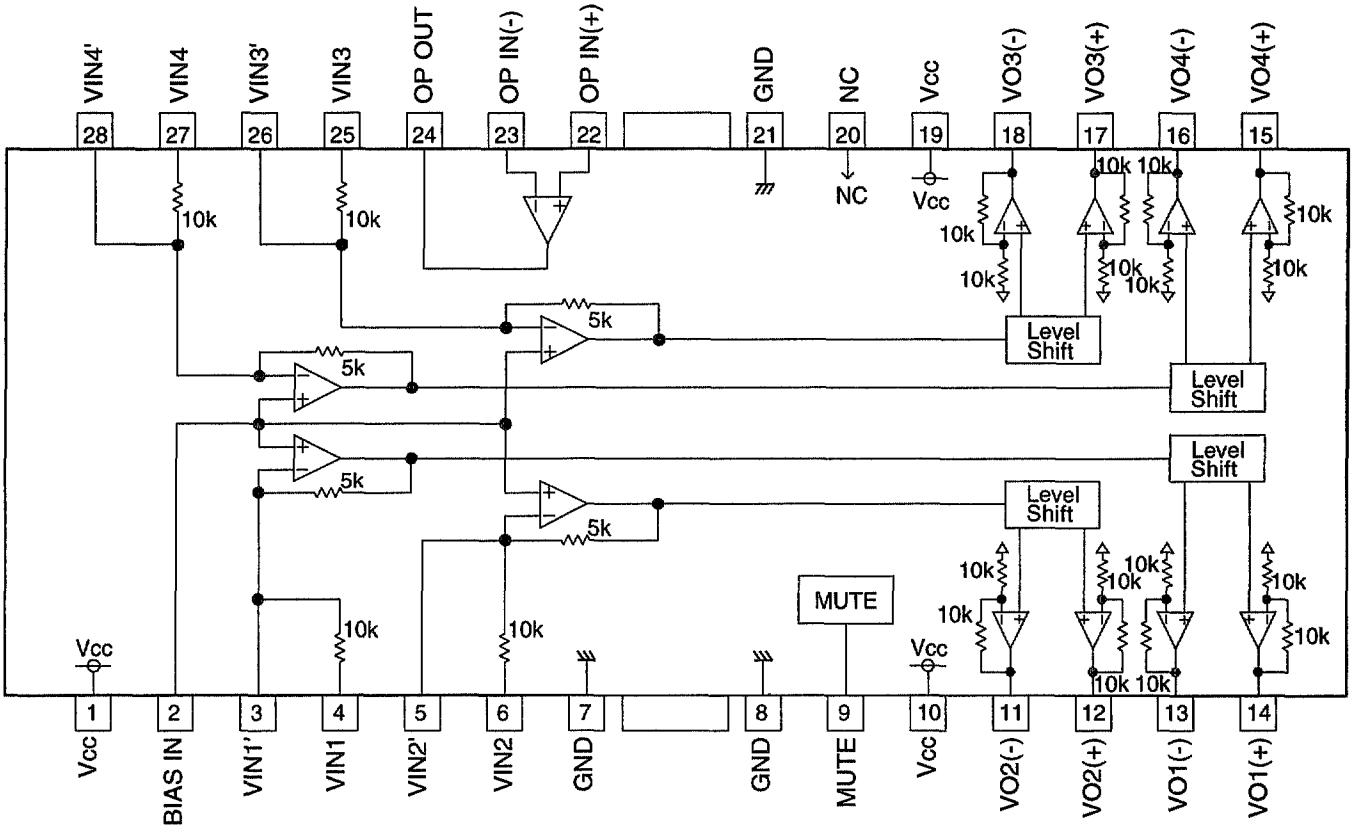
LA9240ML

No.	Name	I/O	Function
16	FD	O	Focusing control signal output pin.
17	FD-	I	Pin to form the focusing phase compensation constant between the FD and FA pins.
18	FA	O	Pin to form the focusing phase compensation constant between the FD- and FA- pins.
19	FA-	I	Pin to form the focusing phase compensation constant between the FA and FE pins.
20	FE	O	Output pin of FE signal.
21	FE-	I	Pin to connect the resistance for gain setting of FE signal between the FE pin.
22	AGND	-	GND for analog signal.
23	SP	O	Single end output of CV+/CV- pin input signal.
24	SPI	I	Spindle amplifier input.
25	SPG	I	Resistance connection pin for gain setting in 12-cm mode for spindle.
26	SP-	I	Pin for connection of spindle phase compensation constant, as well as with the SPD pin.
27	SPD	O	Spindle control signal output pin.
28	SLEQ	I	Pin for connection of thread phase compensation constant.
29	SLD	O	Thread control signal output pin.
30	SL-	I	Pin to input thread feeding signal from the microprocessor.
31	SL+	I	Pin to input thread feeding signal from the microprocessor.
32	JP+	I	Pin to input tracking jump signal from DSP.
33	JP+	I	Pin to input tracking jump signal from DSP.
34	TGL	I	Pin to input tracking gain control signal from DSP. Tracking is set to gain low when TGL is "H".
35	TOFF	I	Pin to input tracking OFF control signal from DSP. Tracking is OFF when TOFF is "H".
36	TES	O	Pin to output TES signal to DSP.
37	HFL	I	High Frequency Level to be used for judgment whether the phase of the main beam is on the bit or mirror.
38	SLOF	I	Thread servo OFF control input pin.
39	CV-	I	Pin to input CLV error signal from DSP.
40	CV+	I	Pin to input CLV error signal from DSP.
41	RFSM	O	RF output pin.
42	RFS-	I	Pin for RF gain setting and EFM signal 3T compensation constant setting, as well as with the RFSM pin.
43	SLC	O	Slice Level Control. Output pin to control the level of data slice by DSP of RF waveforms.
44	SLI	I	Input pin to control the level of data slice by DSP.
45	DGND	-	GND pin of the digital system.
46	FSC	O	Output pin for focus search smoothing capacitor.
47	TBC	I	Tracking Balance Control. Pin to set EF balance variable range.
48	NC	-	No Connect.
49	DEF	O	Pin to output defect detection of disc.
50	CLK	I	Reference clock input pin. Frequency of 4.23MHz is input from DSP.
51	CL	I	Microprocessor command clock input pin.
52	DAT	I	Microprocessor command data input pin.
53	CE	I	Microprocessor command chip enable input pin.
54	DRF	O	Detect RF. RF level detection output.
55	FSS	I	Focus Search Select. Pin to switch focus search mode (switching between ü}search and +search for the reference voltage).
56	VCC2	-	VCC pin for the servo and digital systems.
57	REFI	I	Pin for connection of reference voltage bypass capacitor.
58	VR	O	Reference voltage output pin.
59	LF2	I	Pin for setting defect detection time constant of disc.
60	PH1	I	Pin to connect capacitor for peak hold of RF signal.
61	BH1	I	Pin to connect capacitor for bottom hold of RF signal.
62	LDD	O	APC circuit output pin.
63	LDS	I	APC circuit input pin.
64	VCC1	-	VCC pin for the RF system.

■ BA5923FP (IC8201 : CD ASSY)

● POWER DRIVER IC FOR CD PLAYER

● Block Diagram



● Pin Function

No.	Name	I/O	Function
1	Vcc	-	Vcc
2	BIAS IN	I	Bias amplifier input.
3	VIN1'	I	Driver CH1 input, gain adjustment pin.
4	VIN1	I	Driver CH1 input.
5	VIN2'	I	Driver CH2 input, gain adjustment pin.
6	VIN2	I	Driver CH2 input.
7	GND	-	Substrate Ground.
8	GND	-	Ground
9	MUTE	I	Driver mute control input.
10	Vcc	-	Vcc
11	VO2 (-)	O	Driver CH2 inverted output.
12	VO2 (+)	O	Driver CH2 noninverted output.
13	VO1 (-)	O	Driver CH1 inverted output.
14	VO1 (+)	O	Driver CH1 noninverted output.

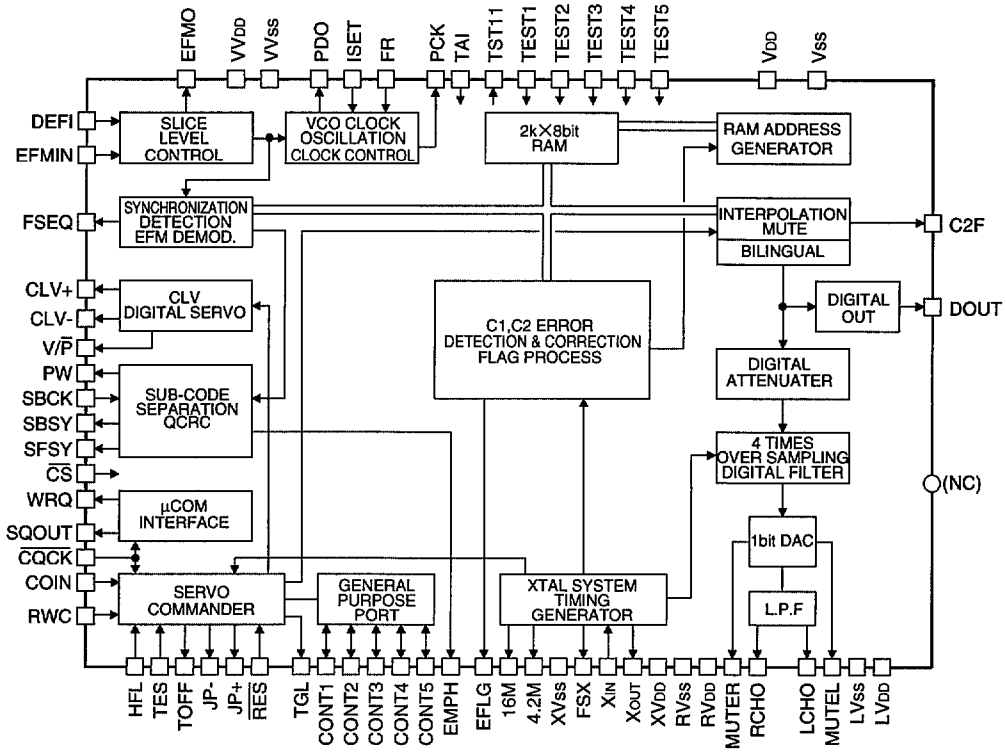
No.	Name	I/O	Function
15	VO4 (+)	O	Driver CH4 noninverted output.
16	VO4 (-)	O	Driver CH4 inverted output.
17	VO3 (+)	O	Driver CH3 noninverted output.
18	VO3 (-)	O	Driver CH3 inverted output.
19	Vcc	-	Vcc
20	NC	-	
21	GND	-	Substrate Ground.
22	OP IN (+)	I	Op-amp input, positive.
23	OP IN (-)	I	Op-amp input, negative.
24	OP OUT	O	Op-amp output.
25	VIN3	I	Driver CH3 input.
26	VIN3'	I	Driver CH3 input, gain adjustment pin.
27	VIN4	I	Driver CH4 input.
28	VIN4'	I	Driver CH4 input, gain adjustment pin.

Note) Symbol of+ and - (output of DRIVERS) means polarity to input pin.
(For example if voltage of pin4 is high, pin14 is high.)

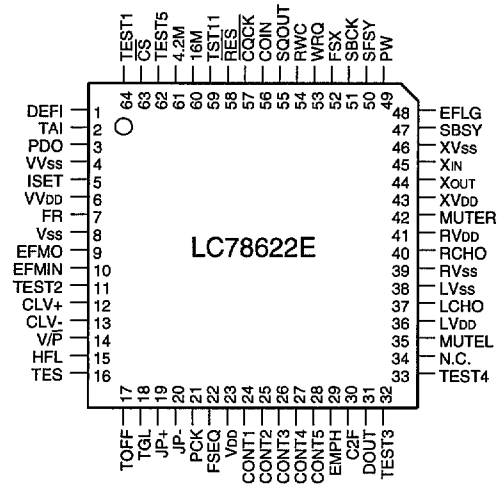
■ LC78622ED (IC8301 : CD ASSY)

● SIGNAL PROCESSOR AND SERVO CONTROL IC FOR CD PLAYER

● Block Diagram



● Pin Assignment



● Pin Function

No.	Name	I/O	Function	
1	DEFI	I	Defect detection signal (DEF) input. (Must be connected to 0V when unused).	
2	TAI	I	PLL pins	Test input. A pull-down resistor is built-in. Must be connected to 0V.
3	PDO	O		External VCO control phase comparator output.
4	VVss	-		Internal VCO ground. Must be connected to 0V.
5	ISET	AI		PDO output current adjustment resistor connection.
6	VVDD	-		Internal VCO power supply.
7	FR	AI		VCO frequency range adjustment.
8	Vss	-	Digital system ground. Must be connected to 0V.	
9	EFMO	O	Since level control	EFM signal output pin.
10	EFMIN	I		EFM signal input pin.

● Pin Function

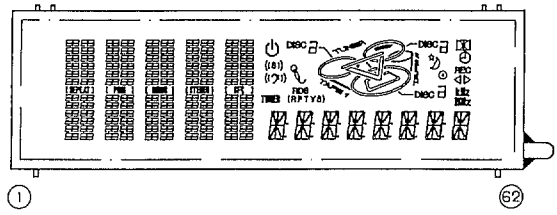
No.	Name	I/O	Function
11	TEST2	I	Test pin. A pull-down resistor is built-in. Must be connected to 0V.
12	CLV+	O	Disc motor control output. Can be set to 3-value output by microprocessor command.
13	CLV-	O	Three-value output is also possible when specified microprocessor command.
14	V/P	O	Rough servo/phase control automatic switching monitor output. Outputs a high during rough servo and a low level.
15	HFL	I	Track detection signal input. This is a Schmitt input.
16	TES	I	Tracking error signal input. This is a Schmitt input.
17	TOFF	O	Tracking off output.
18	TGL	O	Tracking gain switching output. Increase the gain when low.
19	JP+	O	Track jump output.
20	JP-	O	Three-value output is also possible when specified by microprocessor command.
21	PCK	O	EFM data playback clock monitor. Outputs 4.3218MHz when the phase command.
22	FSEQ	O	Synchronization signal detection output. Outputs a high level when the synchronization signal detected from the EFM signal and the internally generated synchronization signal range.
23	VDD	-	Digital system power supply.
24	CONT1	I/O	General-purpose 1. / Controlled by serial data commands from the microprocessor. Any of these that are unused must be either set up as input ports and connected to 0V. or set up as output ports and left open.
25	CONT2	I/O	General-purpose 2.
26	CONT3	I/O	General-purpose 3.
27	CONT4	I/O	General-purpose 4.
28	CONT5	I/O	General-purpose 5.
29	EMPH	O	De-emphasis monitor pin. A high level indicates playback of a de-emphasis disc.
30	C2F	O	C2 flag output.
31	DOUT	O	Digital ouput. (EIAJ format)
32	TEST3	I	Test input. A pull-down resistor is built-in. Must be connected to 0V.
33	TEST4	I	Test input. A pull-down resistor is built-in. Must be connected to 0V.
34	N.C.	-	Unused. Must be left open.
35	MUTEL	O	Left channel one-bit D/A converter: Left channel mute output.
36	LVDD	-	Left channel power supply.
37	LCHO	O	Left channel output.
38	LVss	-	Left channel ground. Must be connected to 0V.
39	RVss	-	Right channel one-bit D/A converter: Right channel ground. Must be connected to 0V.
40	RCHO	O	Right channel output.
41	RVDD	-	Right channel power supply.
42	MUTER	O	Right channel mute output.
43	XVDD	-	Crystal oscillator power supply.
44	XOUT	O	Connections for a 16.9344 crystal oscillator element.
45	XIN	I	
46	XVss	-	Crystal oscillator ground. Must be connected to 0V.
47	SBSY	O	Subcode block synchronization signal.
48	EFLG	O	C1, C2, signal and double error correction monitor pin.
49	PW	O	Subcode P, Q, R, S, T, U and W output.
50	SFSY	O	Subcode frame synchronization signal output. This signal falls when the subcodes are in the standby state.
51	SBCK	I	Subcode readout clock input. This is a Schmitt input. (Must be connected to 0V when unused).
52	FSX	O	Output for the 7.35kHz synchronization signal divided from crystal oscillator.
53	WRQ	O	Subcode Q output standby output.
54	RWC	I	Read/write control input. This is a Schmitt input.
55	SQOUT	O	Subcode Q output.
56	COIN	I	Command input from the control microprocessor.
57	CQCK	I	input for both the command input acquisition clock and the SQOUT pin subcode readout clock input. This is a Schmitt input.
58	RES	I	Chip reset input. This pin must be set low briefly after power is first applied.
59	TST11	O	Test output. Leave open. (Normaly outputs a low level).
60	16M	O	16.9344MHz output.
61	4.2M	O	4.2336MHz output.
62	TEST5	I	Test input. A pull-down resistor is built-in. Must be connected to 0V.
63	CS	I	Chip select input. A pull-down resistor is built in. Must be connected to 0V if not controlled.
64	TEST1	I	Test input. A pull-down resistor is built-in. Must be connected to 0V.

7.1.2 DISPLAY

■ AAV7032 (V1901 : DISPLAY ASSY)

● FL TUBE

● Pin Assignment



● Anode Connection

	1G	2G	3G	4G	5G	6G	7G	8G~12G	13G	14G
P1	B1	B1	B1	B1	B1	⏻		-		1e
P2	B13	B13	B13	B13	B13	S	RDS	-		1a, 1d 1g
P3	B2	B2	B2	B2	B2	((S))	( )	-	REC	1c
P4	B14	B14	B14	B14	B14	((S))	R	-	▷	1b
P5	B3	B3	B3	B3	B3		P	-	◁	2e
P6	B15	B15	B15	B15	B15	( )	T	-	kHz	2a, 2d 2g
P7	B4	B4	B4	B4	B4	( )	Y	-	MHz	2c
P8	B16	B16	B16	B16	B16	TUNED	S	-	-	2b
P9	B5	B5	B5	B5	B5	a1	a1	a1	a1	3e
P10	B17	B17	B17	B17	B17	a2	a2	a2	a2	3a, 3d 3g
P11	B6	B6	B6	B6	B6	h	h	h	h	3c
P12	B18	B18	B18	B18	B18	j	j	j	j	3b
P13	B7	B7	B7	B7	B7	k	k	k	k	S1
P14	B19	B19	B19	B19	B19	b	b	b	b	S2
P15	B8	B8	B8	B8	B8	f	f	f	f	S3
P16	B20	B20	B20	B20	B20	g	g	g	g	S4
P17	B9	B9	B9	B9	B9	m	m	m	m	S5
P18	B21	B21	B21	B21	B21	c	c	c	c	S6
P19	B10	B10	B10	B10	B10	e	e	e	e	S7
P20	B22	B22	B22	B22	B22	r	r	r	r	S8
P21	B11	B11	B11	B11	B11	p	p	p	p	S9
P22	B23	B23	B23	B23	B23	n	n	n	n	S10
P23	B12	B12	B12	B12	B12	d1	d1	d1	d1	
P24	B24	B24	B24	B24	B24	d2	d2	d2	d2	
P25	REPEAT	PGM	MONO	STEREO	SFC	col1	col1	col1	-	DISC (1e)
P26						col2	col2	col2	-	DISC (2e)
P27	-	-	-	-	-	-	-	-	-	DISC (3e)

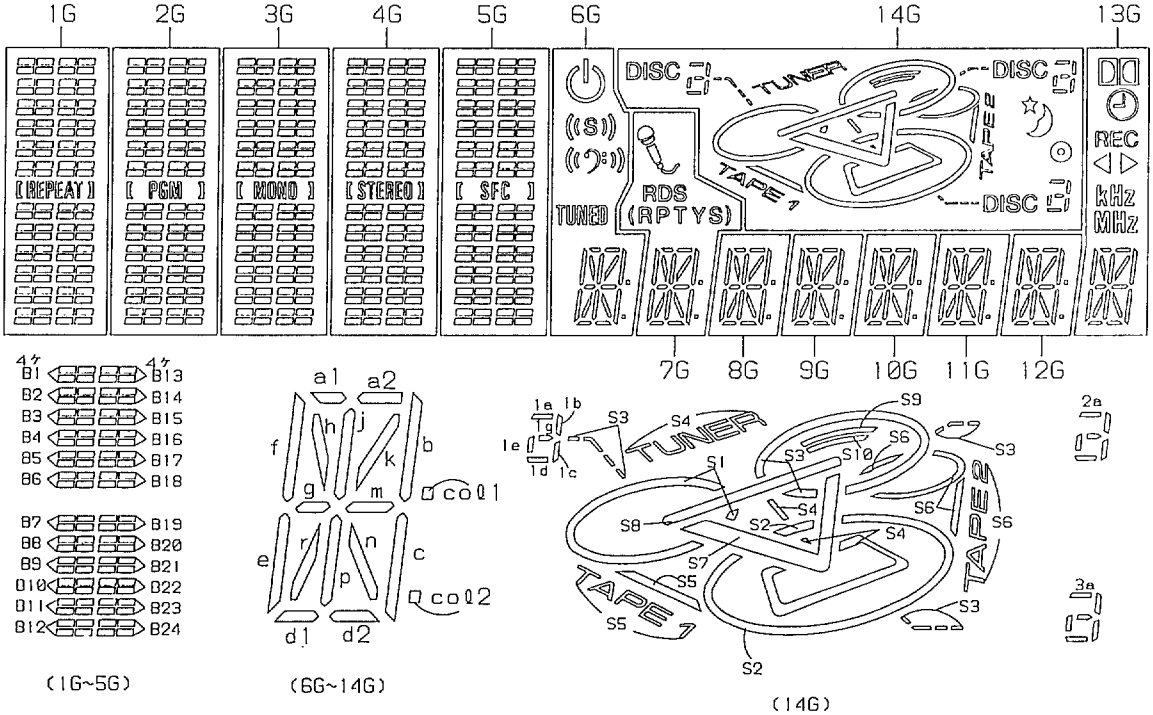
● Pin Connection

PIN NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
CONNECTION	F1	F2	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
	1	1	P	P	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	2	2	2	2	2	2	2	1	1	1	1	1
																				7	6	5	4	3	2	1	0	9	8	7	6	5	4

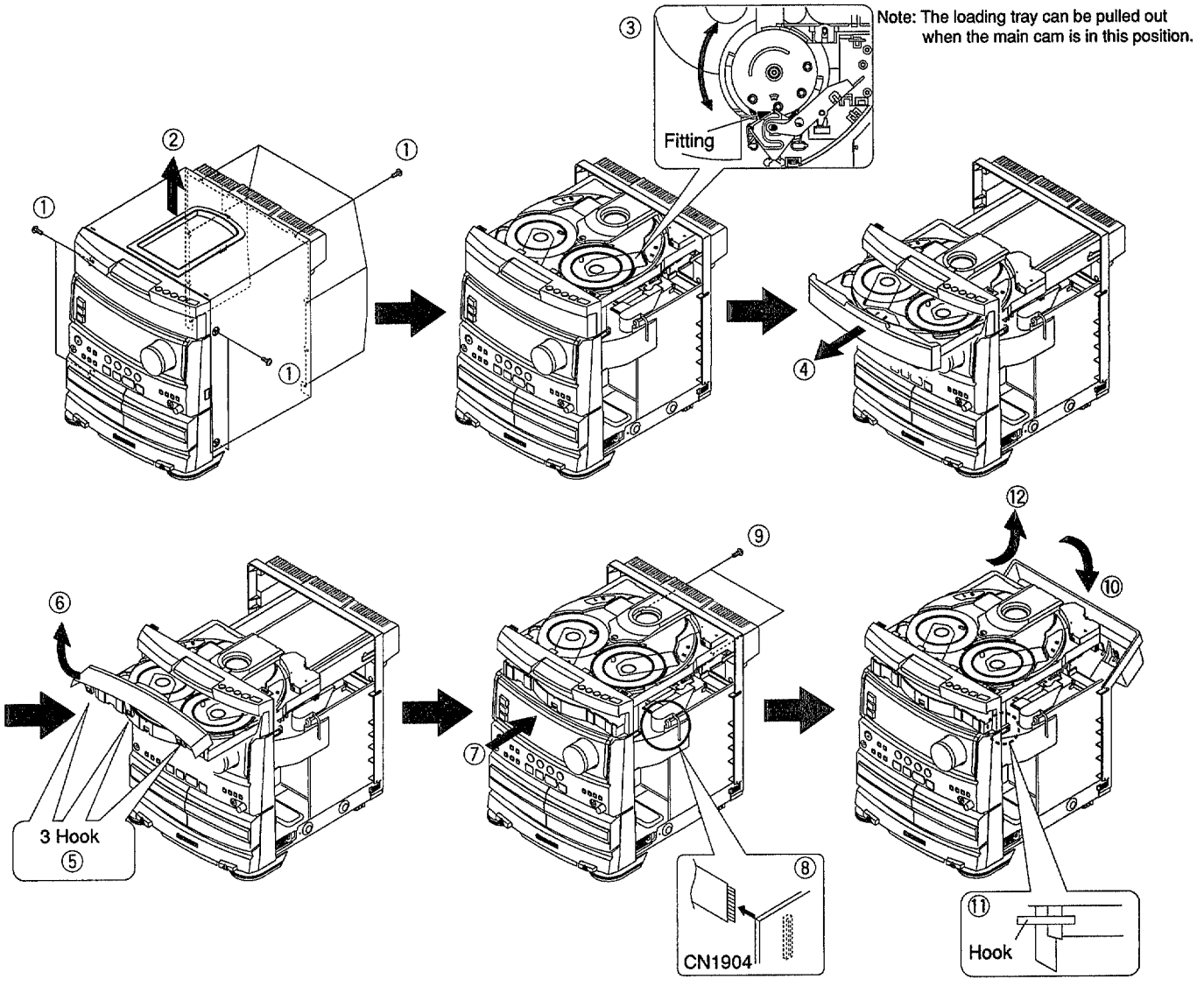
PIN NO.	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62
CONNECTION	P	P	P	P	P	P	P	P	P	P	P	P	P	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	
	1	1	1																										N	F	F
	3	2	1	0	9	8	7	6	5	4	3	2	1	G	G	G	G	G	G	G	G	G	G	G	G	G	G	P	P	2	2

NOTE 1) F1,F2 --- Filament
2) NP ------ No pin
3) NX ------ No extend pin
4) NC ------ No connection
5) DL ------ Datum Line
6) 1G~14G --- Grid

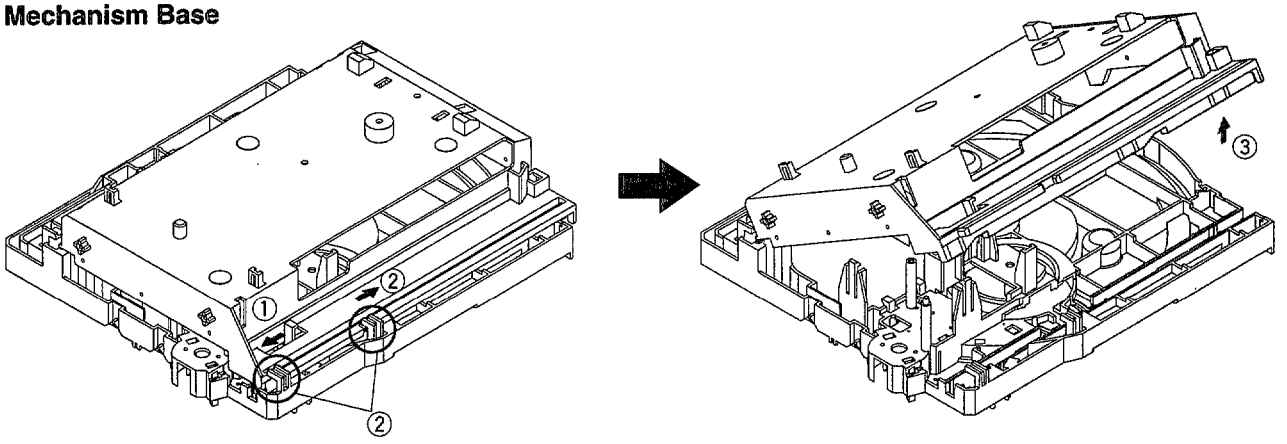
● Grid Assignment



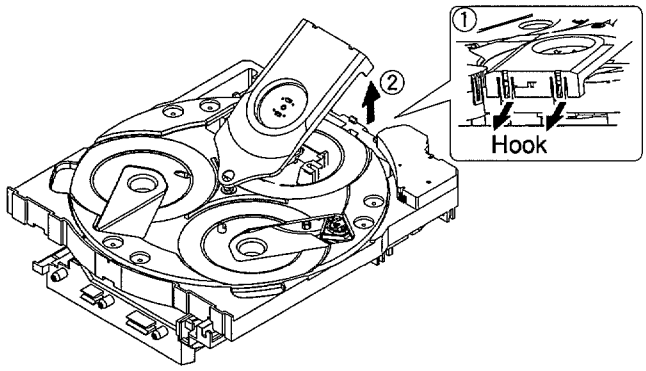
7.2 DIAGNOSIS
7.2.1 DISASSEMBLY
■ CD $M LOADING MECHANISM ASSY



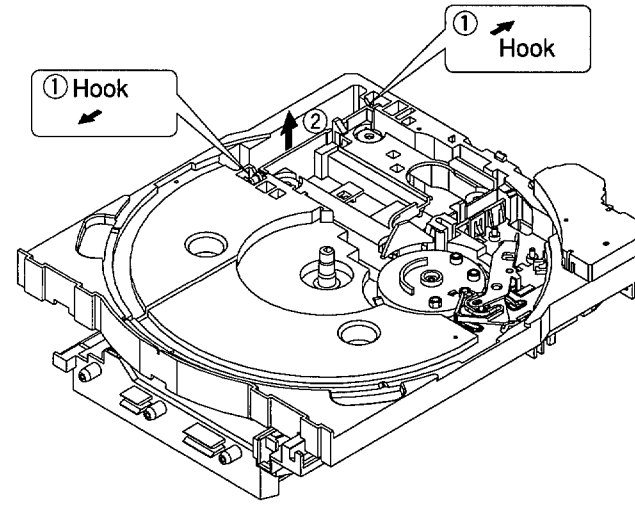
■ CD $M LOADING MECHANISM ASSY ADDITIONAL TO JOB
● **Mechanism Base**



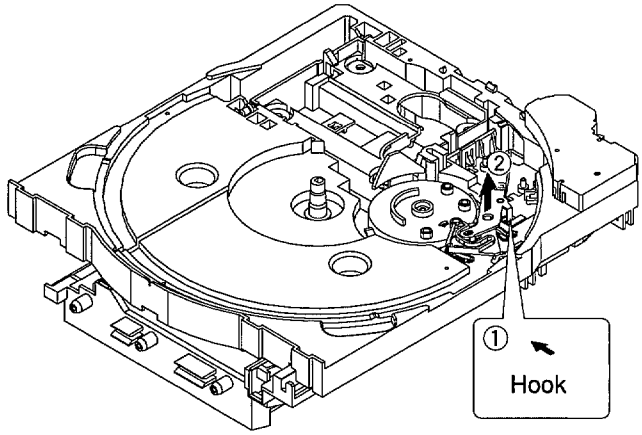
● **Clamper Holder**



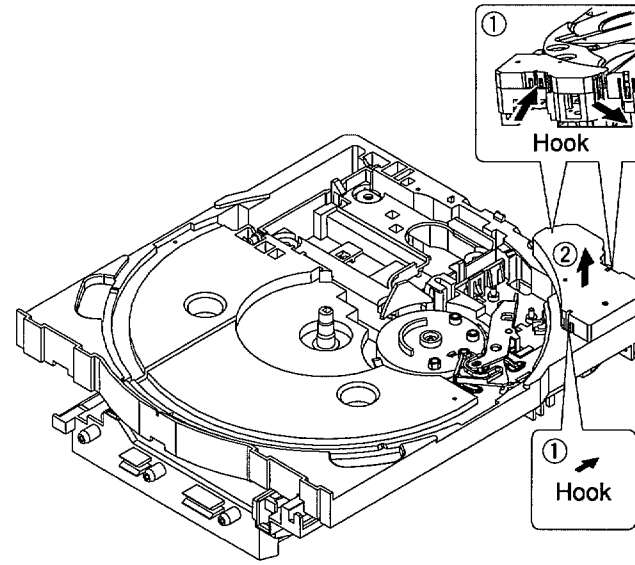
● **Servo Base**



● **Actuater**

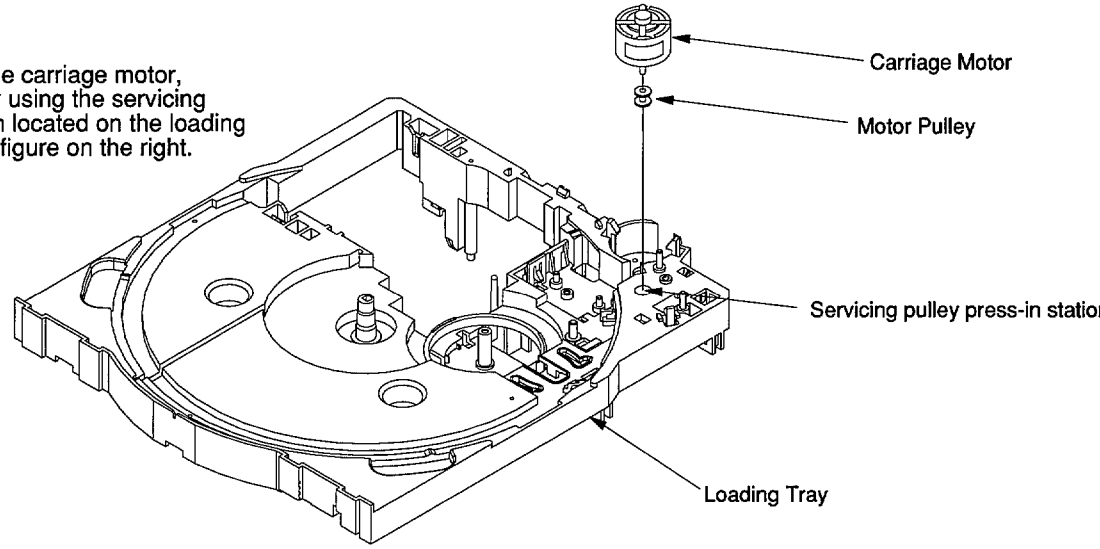


● **Motor Cover**

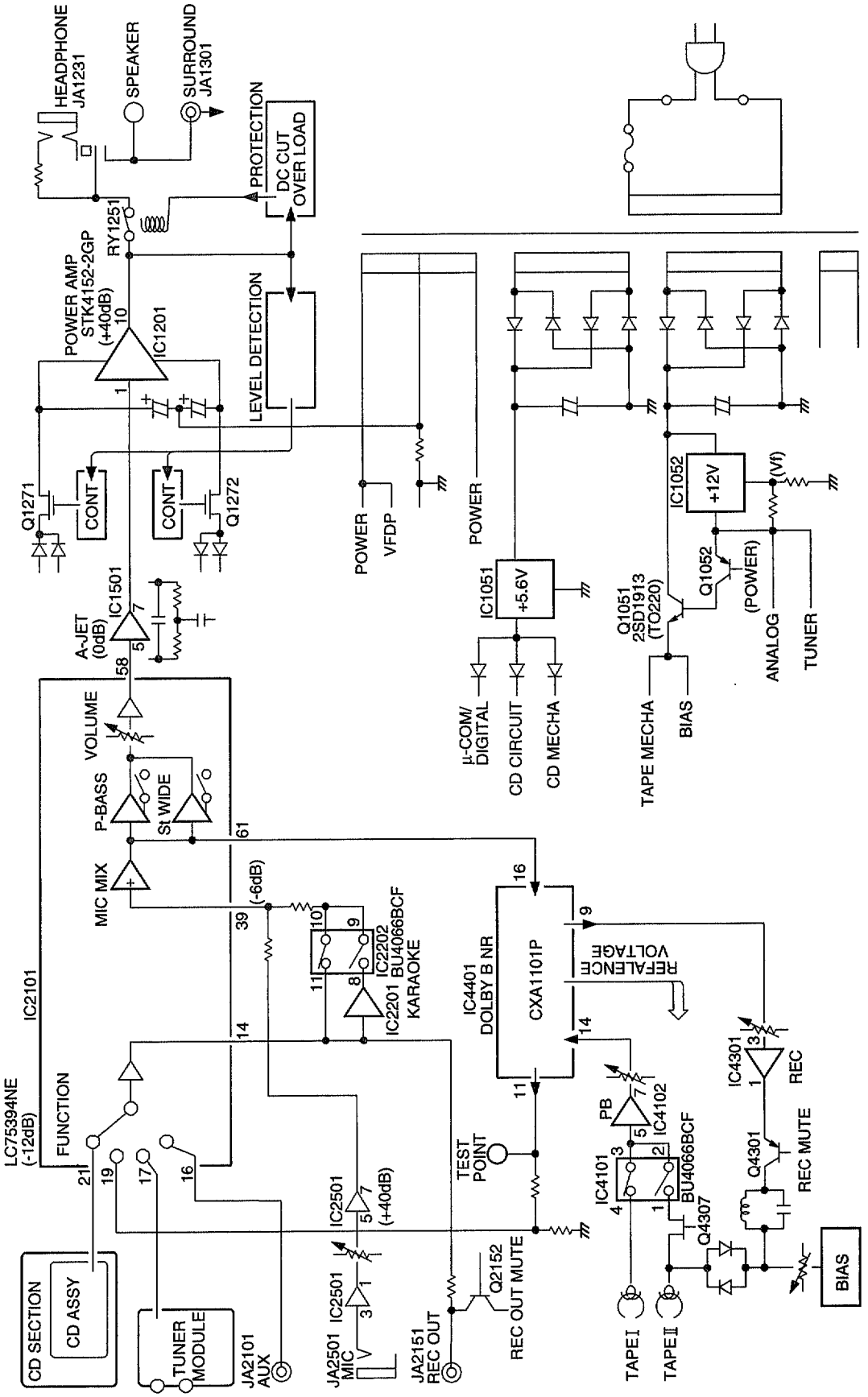


■ FITTING THE PULLEY INTO THE CARRIAGE MOTOR

For replacement of the carriage motor, fit the motor pulley by using the servicing pulley press-in station located on the loading tray, as shown in the figure on the right.

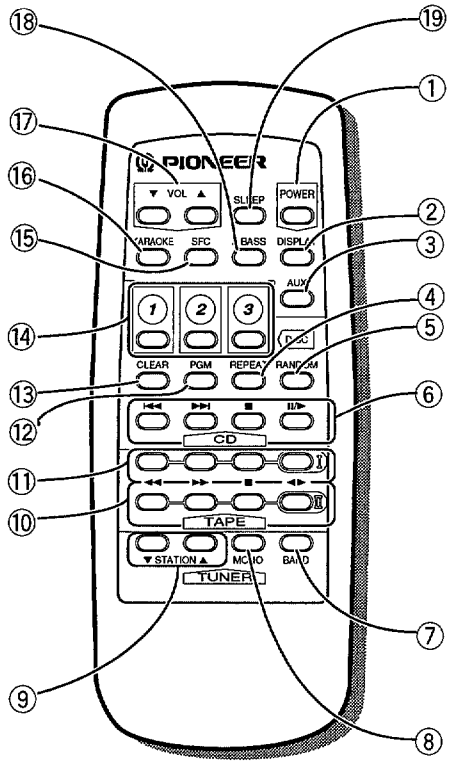


7.3 BLOCK DIAGRAM



8. PANEL FACILITIES AND SPECIFICATIONS

REMOTE CONTROL UNIT



① **POWER button**

② **DISPLAY button**

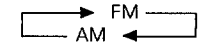
③ **AUX function button**

④ **REPEAT button**

⑤ **RANDOM button**

⑥ **CD operation buttons**
(Track search ⏮ ⏭, Stop ■, Play/Pause ⏯)

⑦ **BAND button**
- Use to switch between FM and AM bands.



⑧ **MONO button**

⑨ **STATION ▼ (down), ▲ (up) buttons**
Before operation, memorize broadcast stations with the STATION ▼, ▲ buttons.
▲ ... Stations change in order in the upward direction.
▼ ... Stations change in order in the downward direction.

⑩ **TAPE II operation buttons**
(Fast ◀◀ ▶▶, Stop ■, Play ◀ ▶)

⑪ **TAPE I operation buttons**
(Fast ◀◀ ▶▶, Stop ■, Play ◀ ▶)

⑫ **PGM button**

⑬ **CLEAR button**

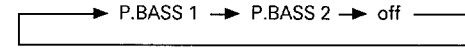
⑭ **DISC SELECT button (1-3)**

⑮ **SFC mode button**

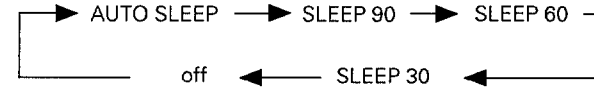
⑯ **KARAOKE button**

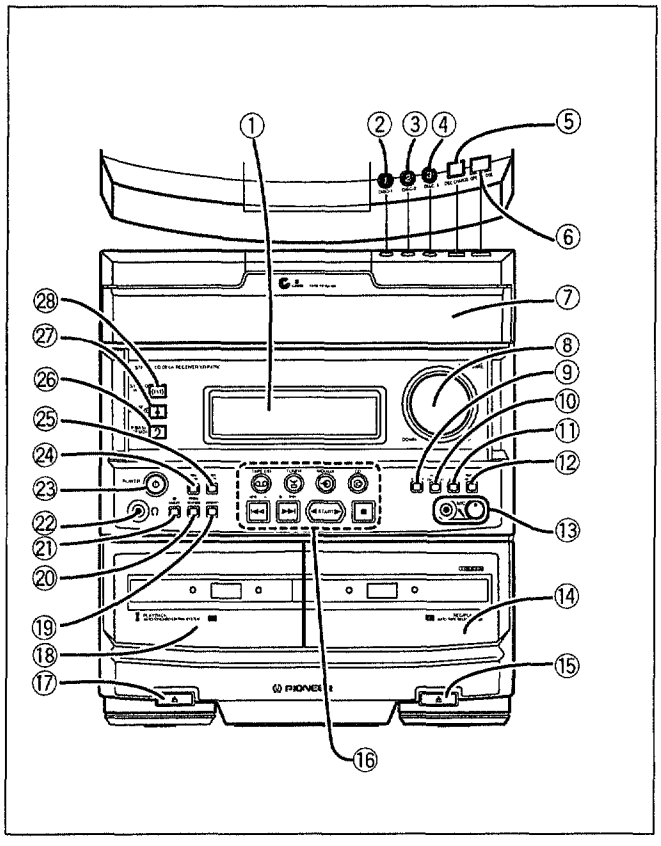
⑰ **VOLUME ▲ (up), ▼ (down) button**
Increase/decrease the sound volume of the unit.

⑱ **P.BASS button**
Each time this button is pressed , the setting changes in the following sequence.

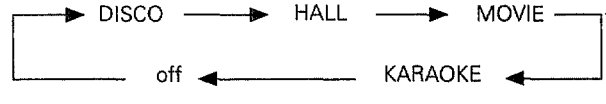


⑲ **SLEEP timer button**
Each time this button is pressed , the setting changes in the following sequence.





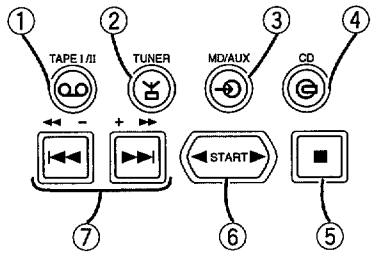
① **Display**
② **DISC 1 select button**
③ **DISC 2 select button**
④ **DISC 3 select button**
⑤ **DISC CHANGE button**
⑥ **OPEN/CLOSE button**
⑦ **CD disc tray**
⑧ **Volume control (VOLUME)**
⑨ **DISPLAY button**
⑩ **CLOCK/CLOCK ADJ button**
⑪ **MONO button**
⑫ **TIMER REC/WAKE-UP button**
⑬ **Microphone jack & MIC level control**
⑭ **TAPE II cassette door**
⑮ **TAPE II Eject button (⏏)**
⑯ **Function buttons (Refer to** P.69 **)**
⑰ **TAPE I Eject button (⏏)**
⑱ **TAPE I cassette door**
⑲ **MEMORY button**
⑳ **FREQ/STATION button**
㉑ **DD (DOLBY*) NR ON/OFF button**
Each time this button is pressed, DOLBY NR system turns ON and OFF.
㉒ **Headphones jack**
㉓ **POWER Switch**
This is the switch for electric power.
ON: When set to the ON position, power is supplied and the unit becomes operational.
STANDBY: When set to the STANDBY position, the main power flow is cut and the unit is no longer fully operational. A minute flow of power feeds the unit to maintain operation readiness (the STANDBY indicator lights).
㉔ **Rec/Rec stop button**
㉕ **ASES/COPY button**
㉖ **P.BASS (DEMO) button**
㉗ **SFC/KARAOKE button**
Each time this button is pressed, the mode changes in the following sequence:



㉘ **STEREO WIDE button**

*
- *Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.*
- *"Dolby" and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation*

Function button section



① **TAPE (I/II) function button and indicator**
② **Tuner function button and indicator**
③ **MD/AUX(D/DF) or AUX(DD, DL) function button and indicator**
④ **CD function button and indicator**
⑤ **STOP button (■)**
⑥ **START button (◄ ►)**
⑦ **, buttons**

- **Roles of the common operation buttons (The rules of the buttons vary depending on the input functions as shown below.)**

During CD input

START: Play/pause button
STOP: Stop button
: Fast forward/track search button
: Fast reverse/track search button

During cassette deck input

START: Play button/Tape transport direction
STOP: Stop button
: Fast forward button/Music search button
: Rewind button/Music search button

During tuner operation

: Frequency & Station + (up) button
: Frequency & Station – (down) button

■ Auto Function

This model is equipped with an "Auto Function" operation, so when the function button for CD, TAPE, AUX or FM and AM (AM/FM with the remote control unit) is pressed, the function switches automatically. Use the AUX function button on the remote control unit to select the component connected to the MD/AUX(D/DF) or AUX(DD, DL) IN jacks, since the Auto Function is not effective for this.

NOTE:

The function cannot be switched during recording and tape copying.

XR-P470C

STEREO CD CASSETTE DECK RECEIVER

Amplifier section

<XR-P470C>

[FRONT]

Continuous Power Output (RMS) ..... 70 W + 70 W
(1 kHz, T.H.D. 10%, 6 Ω)
(PMPO) ..... 1100 W

- *Above specifications are for when power supply is 230 V.*

FM/AM Tuner section

FM tuner section

Frequency Range ..... 87.5 MHz to 108 MHz
(except D/DF model)
76.0 MHz to 108 MHz
(D/DF model only)
Antenna input ..... 75 Ω unbalanced

AM tuner section

Frequency Range
With 9 kHz step ..... DD/DL (531 kHz to 1,602kHz)
D/DF (**522** kHz to **1,629** kHz)
With 10 kHz step ..... (530 kHz to 1,700 kHz)
Antenna ..... Loop antenna

Miscellaneous

Power Requirements ..... AC 110 – 127, 220 – 230, 240 V
50/60 Hz (DD, D/DF model only)
..... AC 110 – 120, 220 – 230, 240 V
50/60 Hz (DL model only)
Power Consumption ..... 385 W

CD section

Type ..... Compact disc digital audio system
Wow and Flutter ..... Limit of measurement
(±0.001 % W.PEAK) or less (EIAJ)

Cassette deck section

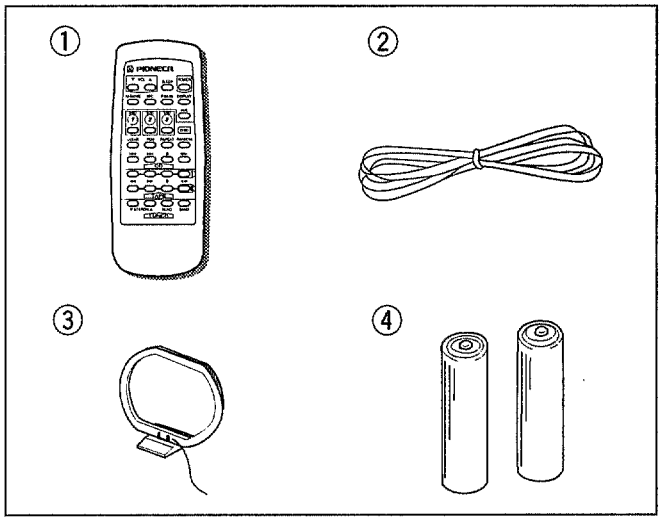
Systems ..... 4 track, 2-channel stereo
Heads ..... Recording/playback head x 1
Playback head x 1
Erasing head x 1
Motor ..... DC servo motor x 1
Tape type ..... TYPE I (Normal) tape / TYPE II (HIGH/CrO_2) tape
Dimensions ..... 270 (W) x 310 (H) x 324 (D) mm
Weight (without package) ..... 7.2 kg

Accessories

Operating instructions 1
Remote control unit 1
FM T-type antenna 1
AM loop antenna 1
Size AA/R6P dry cell batteries 2

NOTE:

Specifications and design subject to possible modification without notice due to improvement.



① Remote control unit x 1
② FM T-type antenna x 1
③ AM loop antenna x 1
④ AA/R6P dry cell batteries x 2